

Windmill Hill Park

City of Alexandria, Virginia

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Documentary Study and Phase I Archeological Investigation

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ABSTRACT

A Phase I Archaeological Investigation was conducted at Windmill Hill Park within the City of Alexandria, Virginia. Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted the investigation for the City of Alexandria, Virginia. The study was initiated in anticipation of planned park improvements of the study area and the concern that significant archeological resources may be impacted by construction. A *documentary study* and *archaeological evaluation* were required under the City of Alexandria Archaeological Protection Code. The archeological investigation followed a Scope of Work approved by Alexandria Archaeology.

The documentary study indicated that the site had a high probability of containing 19th – 20th-century archeological features that could potentially provide significant information about the commercial development on the waterfront in Alexandria. Based on the research, it is likely that remnant 19th-century wharves and a portion of the hulk of the early 19th-century sailing ship *Young Hero* are preserved below ground surface at the site. Archeological resources associated with mid- 19th century industrial and commercial use of the site and domestic refuse and cultural features associated with later 19th- and early 20th-century domestic use of the site may also be present.

The Phase I archeological investigation included mechanized trench excavation and limited shovel testing within the site at locations determined through consultation with Alexandria Archaeology. The vertical extent of the excavations was generally limited to the depths of proposed impacts and the excavations showed modern (mid to late) 20th century fill across the Park at these depths. No artifacts were recovered and no prehistoric or historic archeological features or living surfaces were identified.

One architectural resource was recorded. Resource 100-0121-1523 represents the Windmill Hill Park Bulkhead, a concrete bulkhead with wood pilings likely constructed in the late 1950s and completed by 1960. The Windmill Hill Park bulkhead is a late example of a concrete bulkhead in poor condition with what appears to be a relieving platform system, which were in use along the East Coast as early as 1900. As such, in our opinion, the Windmill Hill Park Bulkhead lacks integrity and is not individually eligible for listing on the NRHP. Additionally, it does not contribute to the Alexandria Historic District, as it was built decades after the end of the relevant Period of Significance.

No further work is recommended if impacts are limited to vertical extents of the current archeological testing as planned.

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INTRODUCTION

This report presents the results of an archival and documentary study and Phase I archeological investigation of the Windmill Hill Park located within the City of Alexandria, Virginia (Figure 1). Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted the studies described in this report for the Department of Project Implementation, City of Alexandria, Virginia.

Boyd Sipe, M.A., RPA served as the Principal Investigator on this project. Daniel Baicy, M.A., RPA conducted the archeological fieldwork with the assistance of Daniel Osborne and Vince Gallacci. Anna Maas, MUEP conducted archival research and prepared the narrative property history. Michael Bowser and Edward Johnson prepared the figures. Archival research was conducted at the offices of Alexandria Archaeology, the Alexandria Courthouse, and the Barrett Branch of the Alexandria Library (Special Collections). Research was also conducted online in the digital collections of the Library of Congress, the Library of Virginia and the Arlington Public Library. We would like to acknowledge the assistance of staff at the Office of Alexandria Archaeology.

The study was initiated in anticipation of the planned improvements to Windmill Hill Park and the concern that significant archeological resources may be impacted by this construction. The work was required under the City of Alexandria Archaeological Protection Code prior to development of the property and followed a Scope of Work approved by Alexandria Archeology (Appendix I). The purpose of the archeological investigation was to record subsurface features and assess the potential for any buried intact historic surfaces below construction fill. The fieldwork followed a Scope of Work (SOW) approved by Alexandria Archaeology (Appendix I). Additionally, fieldwork and report contents conformed to the guidelines set forth by the Virginia Department of Historic Resources (DHR) for a Phase I identification level survey as outlined in their 2011 *Guidelines for Conducting Historic Resources Survey in Virginia* (DHR 2011) as well as the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (DOI 1983). In general, at the time of the survey all aspects of the investigation were in compliance with Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665) (as amended).

ENVIRONMENTAL SETTING

Alexandria is located within the Coastal Plain, which is underlain by sediments that have been carried from the eroding Appalachian Mountains to the west, and includes layers of Jurassic and Cretaceous clays, sands and gravels. These are overlain by fossiliferous marine deposits, and above these, sands, silts and clays continue to be deposited. The Coastal Plain is the youngest of Virginia's physiographic provinces and elevations range from 0 to 200/250 feet above sea level (a.s.l.). It is characterized by very low relief broken by several low terraces. The province runs west to the Fall Line, a low escarpment at ± 200 feet a.s.l., which formed where the softer



Figure 1
Vicinity Map

sedimentary rocks of the Coastal Plain about the more resistant rocks of the Piedmont. Where rivers cross this juncture, rapids or falls have developed.

The Windmill Hill Park property is situated on formerly developed land immediately adjacent to the Potomac River (Figures 2 and 3). No buildings are located within the park project area, but the area is flanked by townhomes on the north side of the park.

PALEOENVIRONMENTAL BACKGROUND

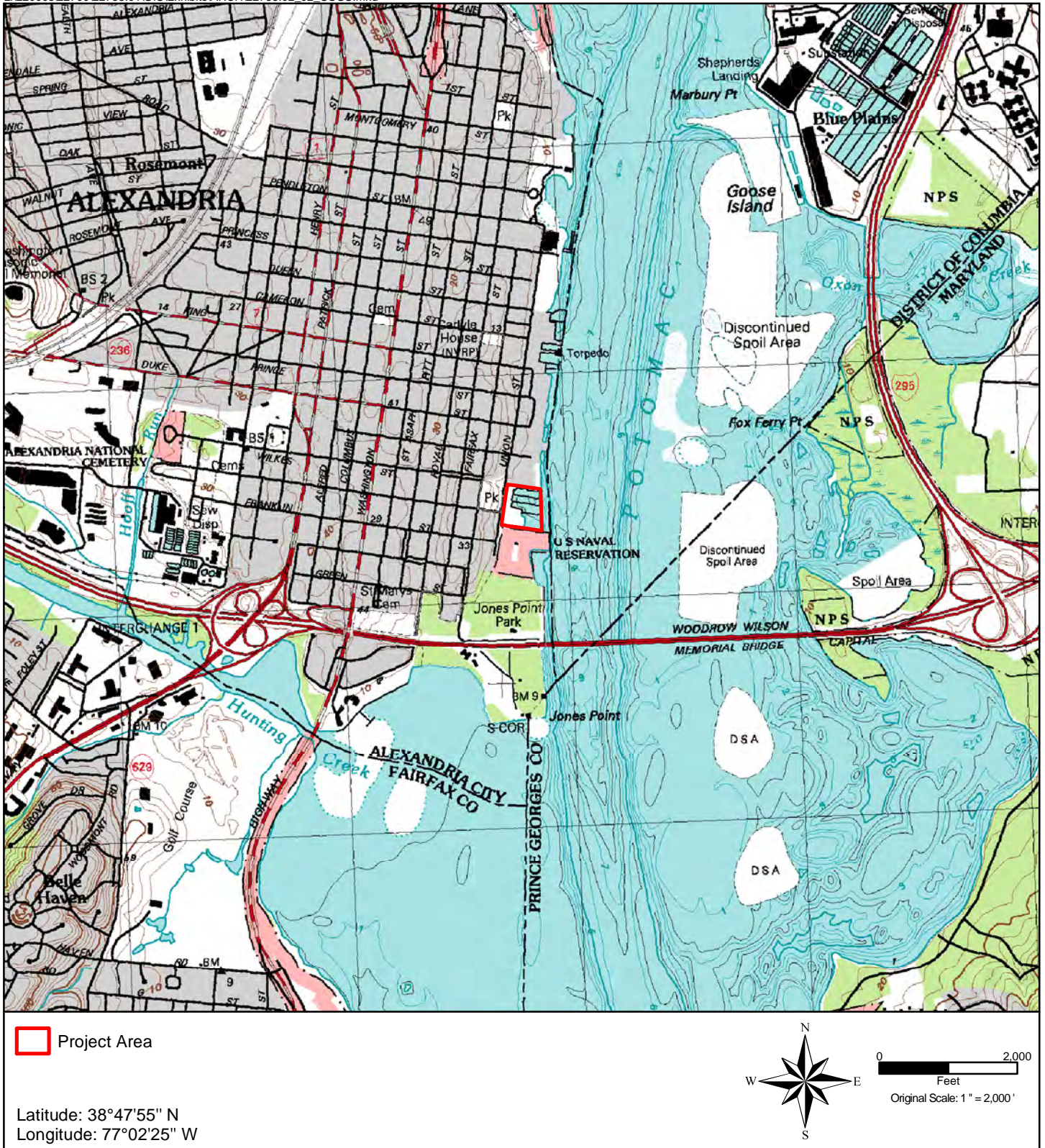
The basic environmental history of the area has been provided by Carbone (1976) (see also Gardner 1985, 1987; Johnson 1986). The following will present highlights from this history, focusing on those aspects pertinent to the project area.

At the time of the arrival of humans into the region, about 11,000 years ago, the area was beginning to recover rapidly from the effects of the last Wisconsin glacial maximum of circa 18,000 years ago. Vegetation was in transition from northern dominated species and included a mixture of conifers and hardwoods. The primary trend was toward a reduction in the openness which was characteristic of the parkland of 14-12,000 years ago. Animals were undergoing a rapid increase in numbers as deer, elk and, possibly, moose expanded into the niches and habitats made available as the result of wholesale extinctions of the various kinds of fauna that had occupied the area during the previous millennia. The current cycle of ponding and stream drowning began 18-16,000 years ago at the beginning of the final retreat of the last Wisconsin glaciation (Gardner 1985); sea level rise has been steady since then.

These trends continued to accelerate over the subsequent millennia of the Holocene. One important highlight was the appearance of marked seasonality circa 7000 BC. This was accompanied by the spread of deciduous forests dominated by oaks and hickories. The modern forest characteristic of the area, the mixed oak-hickory-pine climax forest, prevailed after 3000-2500 BC. Continued forest closure led to the reduction and greater territorial dispersal of the larger mammalian forms such as deer. Sea level continued to rise, resulting in the inundation of interior streams. This was quite rapid until circa 3000-2500 BC, at which time the rise slowed, continuing at a rate estimated to be ten inches per century (Darmody and Foss 1978). This rate of rise continues to the present. Based on archeology (c.f. Gardner and Rappleye 1979), it would appear that the mid-Atlantic migratory bird flyway was established circa 6500 BC.

Oysters had migrated to at least the Northern Neck by 1200 BC (Potter 1982) and to their maximum upriver limits along the Potomac near Popes Creek, Maryland, by circa 750 BC (Gardner and McNett 1971), with anadromous fish arriving in the Inner Coastal Plain in considerable numbers circa 1800 BC (Gardner 1982).

During the historic period, circa AD 1700, cultural landscape alteration becomes a new environmental factor (Walker and Gardner 1989). Around this time, Euro-American settlement extended into the Piedmont/Coastal Plain interface. With these settlers came land clearing and



Windmill Hill Park – Documentary Study and Phase I Archeological Investigation



Figure 3
March 2013 Natural Color Imagery

deforestation for cultivation, as well as the harvesting of wood for use in a number of different products. At this time the stream tributaries to the Potomac, were broad expanses of open waters from their mouths well up their valleys to, at, or near their "falls" where they leave the Piedmont and enter the Coastal Plain. These streams were conducive to the establishment of ports and harbors, elements necessary to commerce and contact with the outside world and the seats of colonial power. Most of these early ports were eventually abandoned or reduced in importance, for the erosional cycle set up by the land clearing resulted in tons of silt being washed into the streams, ultimately impeding navigation.

The historic vegetation would have consisted of a mixed oak-hickory-pine forest. Associated with this forest were deer and smaller mammals and turkey. The nearby open water environments would have provided habitats for waterfowl year round as well as seasonally for migratory species.

PREHISTORIC CULTURAL CONTEXT

Paleoindian Period (10,000/9500-8000 BC)

The Paleoindian period corresponds to the end of the Late Pleistocene and beginning of the Early Holocene of the Late Glacial period, which was characterized by cooler and drier conditions with significantly less seasonal variation than is evident in the region today. The cooler conditions resulted in decreased evaporation and, in areas where drainage was restricted by topography, could have resulted in the development of wetlands in the Triassic Lowlands (Walker 1981; Johnson 1986:P1-8). Generally speaking, the nature of the vegetation was marked by open forests composed of a mix of coniferous and deciduous elements. The individual character of local floral communities would have depended on drainage, soils, and elevation, among other factors. The structure of the open environment would have been favorable for deer, bear, moose, and, to a lesser degree, elk, which would have expanded rapidly into the environmental niches left available by the extinction and extirpation of the large herd animals and megafauna characteristic of the Late Pleistocene.

The fluted projectile point is considered the hallmark of the Paleoindian lithic toolkit. Based on his work at the Flint Run Complex, Gardner identified three distinct sub-phases within the larger fluted point phase (Gardner 1974). The oldest of the Paleoindian sub-phases is identified by the now classic Clovis point, a large, bifacially flaked tool with a channel or flute removed from both sides of its base. Regionally, the widely accepted beginning date for Clovis type points is circa 9500 BC; however, some data has suggested a pre-11,000 BC beginning date for Clovis points (cf. McAvoy and McAvoy 1997; Johnson 1997). The Clovis sub-phase is followed in time by the Middle Paleo sub-phase, defined by smaller fluted points. The Dalton-Hardaway sub-phase is the final one of the period, and is characterized by the minimally fluted Dalton and Hardaway projectile points. This three-period subdivision is well supported by stratigraphy. Associated with these projectile points are various other tools that usually cannot be taken by themselves as diagnostic Paleoindian indicators. Examples of such stone tools include end or side scrapers, bifaces, blades, and spokeshaves, which are all associated with the hunting and processing of game animals.

Possible evidence for pre-Clovis colonization of the Americas has been found at the Cactus Hill site (44SX0202) in Virginia, where an ephemeral component dating from 15,000 to 13,000 BC included prismatic blades manufactured from quartzite cores and metavolcanic or chert pentagonal bifaces (Haynes 2002: 43-44; Johnson 1997; McAvoy 1997; McAvoy and McAvoy 1997). Generally, lanceolate projectile points, prismatic blades, pentagonal bifaces, polyhedral blade cores, microflakes and microlithic tools comprise possible pre-Clovis assemblages and a preference for cryptocrystalline lithic material such as chert and jasper is noted (Goodyear 2005). Cactus Hill and other reportedly pre-Clovis sites, including SV-2 (44SM0037) in Saltville, Virginia (McDonald 2000; McDonald and Kay 1999) and the Meadowcroft Rock Shelter in western Pennsylvania (Adovasio et al. 1990; Adovasio et al. 1998), have been the subject of much controversy and no undisputed pre-Clovis sites or sites representing substantial pre-Clovis occupations have been identified in the region.

Paleoindian archeological assemblages rarely contain stone tools specifically designed for processing plant material such as manos, metates, or grinders. This general absence or rarity of such tool categories does not mean that use of plant resources was unimportant; rather, it may suggest that a far greater emphasis was placed on hunting versus gathering, at least when viewed from the perspective of an assemblage of stone tools. For instance, carbonized plant materials have been found in Paleoindian contexts and plant remains have been recovered from some Paleoindian sites. The remains of acalypha, blackberry, hackberry, hawthorn plum, and grape were recovered from a hearth in the Paleoindian portion of the Shawnee-Minisink Site in eastern Pennsylvania (Dent 1991). Although hard evidence is lacking for the immediate study area, the subsistence settlement base of Paleoindian groups in the immediate region likely focused on general foraging, drawing a comparison with the Shawnee-Minisink data, and certainly focused on hunting (Gardner 1989).

The settlement patterns of Paleoindian peoples has been described as being quarry-centered, with larger base camps being situated in close proximity to localized sources of high quality cryptocrystalline lithic raw materials, such as chert, jasper, and chalcedony. Smaller exploitative or hunting and/or gathering sites are found at varying distance from these quarry-centered base camps (Gardner 1980). This model, developed from Gardner's work at the Thunderbird site complex in the Shenandoah River Valley, has wide applicability throughout both the Middle Atlantic region and greater Eastern United States. The extreme curation (or conservation) and reworking of the blade element exhibited by many stray point finds recovered throughout the Middle Atlantic region, especially specimens from Coastal Plain localities, is a strong argument supporting the quarry-base camp settlement model. Gardner has argued that once a tool kit has been curated to its usable limit, a return to the quarry-tied base camp would be made in order to replenish raw materials (Gardner 1974).

Sporadic Paleoindian finds are reported in the Potomac Valley, but, overall, these distinctive projectile points are not too common in the local area (cf. Gardner 1985; Brown 1979). Paleoindian fluted points have been found as isolated finds in the county; however, at the time of this writing no intact sites have yet been documented.

Early Archaic Period (8000-6500 BC)

The Early Archaic period coincides with the early Holocene climatic period. The warming trend, which began during the terminal Late Pleistocene and Paleoindian period, continued during the Early Archaic period. Precipitation increased and seasonality became more marked, at least by 7500 BC. This period encompasses the decline of the open grasslands of the previous era and the rise of closed boreal forests throughout the Middle Atlantic region; this change to arboreal vegetation was initially dominated by conifers, but soon gave way to a deciduous domination. Arguably, the reduction of these open grasslands led to the decline and extinction of the last of the Pleistocene megafauna, as evidence suggests that the last of these creatures (e.g., mastodons) would have been gone from the area around the beginning of the Early Archaic period. Sea level throughout the region rose with the retreat of glacial ice, a process that led to an increase in the number of poorly drained and swampy biomes; these water-rich areas became the gathering places of large modern mammals.

Similar to the Paleoindian period, the subsistence settlement strategy of Early Archaic peoples was one focused on seasonal migration and hunting and gathering. Early Archaic humans were drawn to the wet biomes resulting from sea level rise because the abundant concentration of game animal, such as white-tailed deer, elk, and bear, made for excellent hunting. As the arboreal vegetation became more abundant and deciduous forests spread, the exploitation of newly available and abundant plant resources, such as fruits, nuts, and acorns increased among Early Archaic populations (Egloff and Woodward 1992:13-14).

Although the manufacturing techniques of projectile points and the favored use of cryptocrystalline raw materials of the Paleoindian period remained unchanged throughout the Early Archaic period, stylistic changes in the lithic toolkit of Early Archaic peoples are evident. The switch from the fluting of projectile points to notching is generally considered to mark the end of the Paleoindian and the beginning of the Archaic period; examples of Early Archaic point types include Amos Corner Notched, Kirk and Palmer Corner Notched, Warren Side Notched and Kirk Stemmed varieties. Gardner has demonstrated that while corner notched and side notched points show a stylistic change from the earlier fluted varieties, they all occurred within a single cultural tradition (Gardner 1974). The transition from fluting to notching is not a radical change, but the gradual replacement of one attribute at a time. The fluting, which was nearly absent during the Dalton-Hardaway sub-phase, is replaced by corner notching, which is then gradually replaced by side notching in the Archaic sequence. The initial reason for the change in hafting and related modifications of the basal elements of Early Archaic points is likely related to the introduction of the atlatl or spear-thrower, which increased the accuracy and force with which spears could be thrown; the fluted forms may have been utilized mainly as thrusting tools, while the earlier notched forms may have been mounted onto a smaller lance with a detachable shaft and powered by the atlatl. As in the earlier Paleoindian period, stone tools designed for the processing of plant materials are rare in Early Archaic assemblages.

Towards the close of the Early Archaic period, trends away from a settlement model comparable to the earlier Paleoindian quarry-focused pattern are evident. A major shift is one to a reliance on

a greater range of lithic raw materials for manufacture of stone tools rather than a narrow focus on high quality cryptocrystalline materials. Lithic use was a matter of propinquity; stone available was stone used. However, extensive curation of projectile points is still evident up until the bifurcate phases of the subsequent Middle Archaic period. It may be that while a reliance on high quality lithic materials continued, other kinds of raw material were used as needed.

This pattern is not readily documented during the earlier Paleoindian period. Johnson argues that the shift to a wider range of materials occurs in the gradual shift from the Palmer/Kirk Corner Notched phases of the Early Archaic to the later Kirk Side Notched/Stemmed or closing phases of the period (Johnson 1983; 1986:P2-6). Changes in lithic raw material selection are likely related to movement into a wider range of habitats coincident with the expansion of deciduous forest elements. Early Archaic period sites begin to show up in areas previously not occupied to any great extent if at all. Additionally, the greater number of sites can be taken as a rough indicator of a gradual population increase through time.

Middle Archaic Period (6500-3000 BC)

The chronological period known as the Middle Archaic coincides with the appearance of full Holocene environments. Climatic trends in the Holocene at this time are marked by the further growth of deciduous forests, the continuing rise of sea levels, and warm and moist conditions. This change led to the spread of modern temperate floral assemblages (such as mesic hemlock and oak forests), modern faunal assemblages, and seasonal continental climates. The advent of such climates and related vegetation patterns allowed for the development of seasonally available subsistence resources, which led to base camps no longer being situated near specific lithic sources, but closer to these seasonal resources. This shift also led to an increase in the number of exploited environmental zones. The moist conditions favored the spread of swamps and bogs throughout poorly drained areas like floodplains, bays, or basins. Rising sea level and overall moist conditions helped form these swamps and basins; sea level had risen too rapidly to allow the growth of large, stable concentrations of shellfish. Estuarine resources were scarce and the inhabitants relied on varied animal resources for sustenance. Essentially modern faunal species were spread throughout the various biomes, but their distributions would have been somewhat different than that known for today. The prevalent species included deer, turkey, and smaller mammals.

The initial technological shift in lithic projectile points between the Early and Middle Archaic periods is generally considered to be marked by the introduction of bifurcate base projectile points, such as St. Albans, LeCroy, and Kanawha types (Broyles 1971; Chapman 1975; Gardner 1982). Other researchers place the bifurcate phase within the Early Archaic period. The bifurcate points do not occur throughout the entire Middle Archaic period; however, they appear to be constrained to the earlier portion of the period and disappeared sometime before 5000 BC (Chapman 1975, Dent 1995; Bergman et al. 1994). Several other marked changes occurred along with the onset of the bifurcate points. Ground stone tools, such as axes, gouges, grinding stones, and plant processing tools, were introduced along with bifurcate points (Chapman 1975, Walker 1981). These new tools are evidence for the implementation of a new technology designed to exploit

vegetable/plant resources. Also, a shift to the use of locally available lithic raw material, which began during the closing phases of the Early Archaic, is manifest by the advent of the bifurcate phases.

The major stemmed varieties of projectile point that follow the earlier bifurcate forms and typify the middle portion of the Middle Archaic period include the Stanly, Morrow Mountain I and Morrow Mountain II varieties. Coe (1964) documented a Stanly-Morrow Mountain sequence at the Doerschuk Site in the North Carolina Piedmont, and similar results were recorded at the Neville Site in New Hampshire (Dincauze 1976) and the Slade Site in Virginia (Dent 1995). The projectile points marking the latter portion of the Middle Archaic period are the lanceolate shaped Guilford type and various side notched varieties (Coe 1964; Dent 1995). Vernon points, common at the Accokeek Creek Site in Prince George's County, Maryland, are considered to be local variants of Halifax points (McNett and Gardner 1975:9). This data seems to indicate that a similar Middle Archaic projectile point chronology exists in the Virginia-Maryland area.

It is during the Middle Archaic period that prehistoric human presence becomes relatively widespread in a wide range of environmental settings (Gardner 1985, 1987; Johnson 1986; Weiss-Bromberg 1987). As far as the inhabitants of the Middle Archaic period are concerned, there is an increase in population, which can be seen in the sheer number of sites (as represented by the temporally diagnostic point types) throughout the Middle Atlantic region. Temporally diagnostic artifacts from upland surveys along and near the Potomac show a significant jump during the terminal Middle Archaic and beginning Late Archaic; Johnson noted in his overview of Fairfax County archeology a major increase in the number of sites (as measured by temporally diagnostic point types) during the bifurcate phase and the later phases of the Middle Archaic period (Johnson 1986:P2-14). With the increasing diversity in natural resources came a subsistence pattern that was predicated on the seasonal harvest of various nut species and other plant resources that characterized deciduous forest environments. Base camps were located in high biomass habitats or areas where a great variety of food resources could be found (Walker 1981). These base camp locations varied according to the season and were located on floodplains, interior fluvial swamp settings, and in some cases, within interior upland swamp settings. The size and duration of the base camps appear to have depended on the size, abundance, and diversity of the immediately local and nearby resource zones.

Late Archaic Period (3000-1200 BC)

The rise in sea level continued during the Late Archaic period, eventually pushing the salinity cline further upstream and creating tidal environments; a corresponding movement of various riverine and estuarine species took place with the development of tidal conditions in the embayed section of the Potomac and its main tributary streams. Freshwater spawning fish had to travel farther upstream to spawn, fostering extensive seasonal fish runs. The development of brackish water estuaries as a result of an increase in sea level in the Hudson, Delaware, and Chesapeake Bay regions led to the spread of various shell species, such as oysters and crabs (Gardner 1976; Gardner 1982). In general, climatic events approached those of modern times during the Late Archaic period.

Throughout the Eastern United States, distinctive patterns of the Native-American landscape become evident by about 3000/2500 BC, marking a significant shift with earlier Middle Archaic components. The Late Archaic period is characterized by an increase in population over that documented for the Early and Middle Archaic periods, based on an increase in both the number of identified sites dating to this period and in their size and widespread distribution. An increasingly sedentary lifestyle evolved, with a reduction in seasonal settlement shifts (Walker 1981; Johnson 1986:5-1). Food processing and food storage technologies were becoming more efficient, and trade networks began to be established.

In parts of the Middle Atlantic region, the development of an adaptation based on the exploitation of riverine and estuarine resources is apparent. Settlement during the Late Archaic period shifted from the interior stream settings favored during earlier periods to the newly embayed stream mouths and similar settings (Gardner 1976). Although Late Archaic populations continued a foraging pattern linked to dense forests and their seasonally available plant resources, interior sites became minimally exploited, though not abandoned, sustaining smaller hunting camps and specialized exploitative stations; sites in these areas exhibit varying emphasis on procurement of locally available cobble or tabular lithic sources, such as chert, quartz, and quartzite, as well as a variety of plant species. In settlement-subsistence models presented by Gardner, this shift is linked with the development of large seasonal runs of anadromous fish. These sites tend to be concentrated along the shorelines near accessible fishing areas. The adjacent interior and upland zones become rather extensively utilized as adjuncts to these fishing base camps.

The Late Archaic technological assemblage continued an emphasis on ground stone tools first noted in the Middle Archaic period. Steatite net weights and carved steatite bowls with lug handles, which would not break when heated during cooking, first appeared during this period and are common throughout the Eastern United States from Maine to Florida. The use of steatite bowls is often seen as an indicator of increased sedentism among Late Archaic populations, as the vessels would have been heavy and difficult to transport (Egloff and Woodward 1992:26). In Virginia, outcrops of steatite have been identified in the eastern foothills of the Blue Ridge Mountains, though in limited numbers, from Fairfax County to Carroll County in southern Virginia. Archeologically, fragments of steatite bowls have been recovered in Late Archaic contexts in varying physiographic settings in the Middle Atlantic, often at great distances from steatite outcrops and quarry sites, which many have interpreted as evidence of widespread trading between Late Archaic peoples across the region. Kavanagh's (1982) study of the Monocacy River watershed in Maryland suggests that dug-out canoes were being produced during the Late Archaic period, based on the greater occurrences of gouges and adzes recovered from Late Archaic contexts (Kavanagh 1982: 97); canoes would have allowed for increased mobility and facilitated trading among Late Archaic groups via the various rivers and streams in the region.

The most easily recognizable temporally diagnostic projectile point in the Middle Atlantic region is the parallel stemmed, broad-bladed Savannah River point, which has a number of related cognate types and descendant forms, such as the notched broadspears, Perkiomen and Susquehanna, Dry Brook and Orient, and more narrow bladed, stemmed forms such as Holmes.

Defined by Coe based on work in the Carolina Piedmont (Coe 1964), the Savannah River point represents what could be, arguably, a typological horizon throughout the Eastern United States east of the Appalachians, dating from about 2600 to perhaps as late as 1500 BC. Gardner (1987) separates the Late Archaic into two phases: Late Archaic I (2500-1800 BC) and Late Archaic II (1800-1000 BC). The Late Archaic I corresponds to the spread and proliferation of Savannah River populations, while the Late Archaic II is defined by Holmes and Susquehanna points. The distribution of these two, Gardner (1982; 1987) suggests, shows the development of stylistic or territorial zones. The Susquehanna style was restricted to the Potomac above the Fall Line and through the Shenandoah Valley, while the Holmes and kindred points were restricted to the Tidewater and south of the Potomac through the Piedmont. Another aspect of the differences between the two groups is in their raw material preferences: Susquehanna and descendant forms such as Dry Brook and, less so, Orient Fishtail, tended to be made from rhyolite, while Holmes spear points were generally made of quartzite.

Early Woodland Period (1200-300 BC)

The Early Woodland period corresponds generally to the Sub-Atlantic episode, when relatively stable, milder, and moister conditions prevailed; although short-term climatic perturbations were present. By this point in time, generally, the climate had evolved to its present conditions (Walker 1981).

The major artifact hallmark and innovation of the Early Woodland period is the appearance of pottery (Dent 1995; Gardner and McNett 1971). Archeologists believe that ceramic technology was introduced to Virginia from people living on the coasts of Georgia and South Carolina, where pottery had been made by prehistoric populations since approximately 2500 BC (Egloff and Woodward 1992:26). It is important to note that pottery underscores the sedentary nature of the local resident populations, as clay ceramics of the period would have been fragile and cumbersome to transport. Further evidence of this sedentism has been identified in the region in the form of subsurface storage pits (likely for foodstuffs), platform hearths, midden deposits, and evidence of substantial pole-constructed structures. This is not to imply that Early Woodland populations did not utilize the inner-riverine or inner-estuarine areas, but rather that this seems to have been done on a seasonal basis by people moving out from established bases; this settlement pattern is essentially a continuation of Late Archaic lifeways with an increasing orientation toward seed harvesting in floodplain locations (Walker 1981). Small group base camps would have been located along Fall Line streams during the spring and early summer in order to take advantage of the anadromous fish runs. Satellite sites such as hunting camps or exploitive foray camps would have operated out of these base camps.

In the middle to lower Potomac River Valley, as well as most of the surrounding Middle Atlantic region, the earliest known ceramics begin with a ware known as Marcey Creek. In chronological terms, Marcey Creek likely falls within the first 200 years of the final millennium BC, or roughly 1000 to 800 BC. This ware is a flat bottomed vessel tempered with crushed steatite or, in the Eastern Shore region, other kinds of crushed rock temper (Manson 1948). Based on vessel shape, this distinctive ware is interpreted as a direct evolution or development from the flat bottomed

stone bowls of the Late Archaic period. Vessels of this ware frequently exhibit the same lugs on the side walls as seen on Late Archaic steatite bowls. As a ceramic ware group, Marcey Creek is short lived in terms of its position in the chronological record. The earliest dates for Marcey Creek are 1200 BC in the Northern Neck and 950 BC at the Monocacy site in the Potomac Piedmont (Gardner and McNett 1971).

Shortly after about 800 BC, conoidal and somewhat barrel shaped vessels with cord marked surfaces enter the record in the Middle Atlantic region and greater Northeast; whether these evolved from the flat bottomed Marcey Creek vessels or simply replaced them is unknown. Locally, such a ware has been designated Accokeek Cord Marked, first described from the Accokeek Creek Site in Prince George's County, Maryland. Radiocarbon dates for Accokeek place it between approximately 750 BC and 300/400 BC, when it is superseded by net impressed varieties, including Popes Creek and related wares (Gardner and McNett 1971; Mouer et al. 1981; Mounier and Cresson 1988). Accokeek ware was tempered with both sand and crushed quartz, although any suitable stone may have been used for the grit source, including steatite. In many cases, temper selected for use by Accokeek potters appears to have been based on propinquity to specific resources. In the Coastal Plain settings of the Maryland and Virginia, Accokeek typically has a "sandier" paste and could be said to have sand as a tempering agent. However, when large enough sherds are analyzed, crushed quartz tempering is invariably found in this ware. Whether or not the paste of the vessel is sandy or more clayey in texture (or "feel") depends on the clay source, either Piedmont or Coastal Plain. Clay sources from Coastal Plain settings usually contain greater amounts of sand.

Some chronological frameworks for the Middle Atlantic region, particularly in Maryland, suggest a transitional ware, such as Selden Island (cf. Slattery 1946), between Marcey Creek and Accokeek and its cognate wares. While this concept of a transitional ware has logical merit, it cannot be demonstrated conclusively with the evidence currently available. In many cases, the excavated sites show depositional contexts from this period with little vertical separation between Late Archaic and Early Woodland deposits. A more refined chronology that clarifies such issues of ceramic change still needs to be developed.

Generally, temporally diagnostic projectile points from the Early Woodland period include smaller side notched and stemmed variants such as Vernon and Calvert, and diagnostic spear points such as Rossville/Piscataway points. The lobate based Piscataway point has been associated archeologically with Accokeek pottery at a number of sites in the Middle Atlantic region; locally these points have been termed "Teardrop" points by Mounier and other investigators (cf. Mounier and Cresson 1988). This point type has been found in association with Accokeek pottery at sites in New Jersey (cf. Mounier and Cresson 1988; Barse 1991), in Maryland (Barse 1978), and in Virginia (Mouer et al. 1981; McClearen 1991). These points continue into the early phases of the Middle Woodland period and have been found in contexts containing Popes Creek, Albemarle, and early variants of Mockley ceramics along the Potomac River (Barse 2002).

Middle Woodland Period (300 BC-AD 1000)

The Middle Woodland period is characterized by an increase in population size and increased sedentism. With the emergence of Middle Woodland societies, an apparent settlement shift occurred compared to those seen in the intensive hunter-gatherer-fisher groups of the Late Archaic and Early Woodland periods. In brief, it appears that a selection to broader floodplain localities and the development of larger storage facilities at base camp localities dominated settlement patterns at this time (cf. Cross 1956). Some degree of seasonal occupation and migration centered on natural food resources still occurred; potentially the year was split between more permanent settlements located in the inner Coastal Plain region and the Piedmont uplands. In general, from AD 200 to approximately AD 900, settlement in the Potomac Piedmont was sparse. Smaller exploitative sites are also known and found as small shell middens in estuarine settings and interior or inter-riverine hunting stations along the drainage divides between the Delaware River and its tributaries. Essentially all available food resources were now utilized, including fresh and saltwater aquatic species (i.e., oysters, fish, crab, etc.), deer, turkey, and migratory waterfowl. People also began to intensively harvest and store a variety of locally available plants, seeds, and nuts, such as amaranth seeds, chenopod seeds, wild rice, hickory nuts, acorns, and walnuts.

The Middle Woodland period is best interpreted as a gradual development from the Early Woodland and, despite clear continuity, is marked by innovations in the ceramic realm. One notable addition to ceramic technology, and one clearly widespread throughout the Middle Atlantic region, is the inception of vessels exhibiting net impressed surface treatments. A wider range of vessel forms and sizes also can be documented compared to earlier vessel assemblages. The net impressed surfaces and greater variation in vessel size and shape represent a significant change used for defining the Middle Woodland period in the Middle Atlantic region from areas south of the James River through the Chesapeake region and into the lower Susquehanna and Delaware River drainages. Accokeek and related wares of the Early Woodland period gradually developed into what has become known as the Albemarle ware group, commonly found in the Piedmont of Virginia and, perhaps, Pennsylvania and Maryland; it does not appear to be present in the Delaware Valley area.

Based on work in the lower Potomac River Valley and the upper Delaware River Valley, net impressed ceramics enter the chronological record around 500 BC (Gardner and McNett 1971). More recently, AMS dating on carbon taken from a sherd of Popes Creek recovered in Charles County, Maryland returned a slightly younger date of 2235 ± 100 B.P., or 285 ± 100 BC (Curry and Kavanagh 1994). In the upper Delaware River area, Broadhead net impressed ceramics, which have been considered as a northern Popes Creek cognate, have been dated to 480 ± 80 BC in New Jersey (Kinsey 1972:456). Other similar wares include the net impressed varieties of Wolf Neck and Colbourn ceramics from the Eastern Shore of Maryland and Delaware. Comparisons could also be extended to the Prince George Net Impressed ceramics from southern Virginia and the Culpepper ware in the Triassic Lowlands of the Piedmont; Culpepper ware is a sandstone tempered ceramic occasionally found in the Piedmont and is recognized by some archeologists working in Fairfax County, but has not been clearly defined in the literature. These wares or ware groups are circum-Chesapeake Bay in their geographic distribution, pointing to close interrelationships

between the societies making these wares. All of these groups were undoubtedly participating in a growing Middle Woodland interaction sphere widespread throughout the James, Potomac, lower Susquehanna, Delaware, and even lower Hudson River Valleys.

Popes Creek ceramics developed into the shell tempered Mockley ceramics, a ware that has both net impressed and cord marked surfaces. Many, if not most, radiocarbon dates associated with Mockley ceramics bracket the ware between about AD 250/300 to approximately AD 800, after which it develops into the Late Woodland Townsend Ware. Why the shift from sand to shell tempering occurred is unknown, although it was widespread in the Middle Atlantic region. In the lower Potomac Valley, Mockley may have been tied to the intensive exploitation of oyster beds, a phenomenon first manifested in the earlier Popes Creek phase of the Middle Woodland period. Mockley ware exhibits relationships with the earlier Popes Creek ceramics and its cognate wares in basic attributes such as rim form, vessel shapes, and the range of vessel sizes (Barse 1990).

Thurman has termed the developmental trajectory of Mockley to Townsend the “Mockley continuum”, a time span that saw gradual population growth and increasing village size leading up to the Late Woodland period (Thurman 1985). For the earlier end of this continuum, Potter (1993) has reported dates in the last 200 years of the final millennium BC for Mockley ceramics in the lower Potomac Valley in Virginia. The emergence of Mockley ware from Popes Creek was likely a gradual process, not a single historical event. It is also likely that, during this transition, both wares coexisted (as recognized archeologically), perhaps unevenly across the region. Both wares would have been contemporaneous at some point in this transition, as evidenced by their association in the large refuse pits excavated at the Fletchers Boathouse Site in Washington, D.C. (Barse 2002). At some point in the developmental trajectory, however, Mockley ware superseded the heavy, coarse, sand tempered Popes Creek ceramics and dominated the Middle Atlantic region.

Popes Creek and Mockley ware ceramics are not as common in Piedmont settings as they are in Coastal Plain settings where they are prevalent. Albemarle ceramics, bearing mostly cord marked exterior surfaces that show continuity with the earlier Accokeek ware, are commonly found in Middle Woodland contexts in the Potomac Piedmont. This ware was found associated with Mockley ceramics at the Fletchers Boathouse site in pit contexts (cf. Barse 2002) along with small quantities of Mockley and Popes Creek ceramics. Radiocarbon dates from several of the large pits at this site fall between 100 BC and AD 100, suggesting that Popes Creek was in the process of being replaced by the shell tempered Mockley ceramics. Albemarle is considered to be contemporary with both, though more commonly found in the Piedmont; as a ware it continued up to and perhaps into the Late Woodland period. Gardner and Walker (1993:4) suggested that fabric impressed wares become more common towards the end of the Middle Woodland period. This surface treatment is restricted to Albemarle wares though, and does not really occur on Mockley ceramics. Fabric impressing on shell tempered ceramics by default is identified as Townsend ware.

Lithic artifacts associated with Middle Woodland occupations frequently include side notched and parallel stemmed points manufactured from rhyolite, argillite, and Pennsylvania jasper. Such points are known as Fox Creek in the Delaware Valley and Selby Bay in the Chesapeake region. The Middle Woodland people also manufactured and used a stone axe called a celt, used for

woodworking. The celt differed from the earlier axes because it was not grooved; rather, it was hafted into a socketed wooded handle.

Late Woodland Period (AD 1000 to AD 1606/European Contact)

The Late Woodland period begins around AD 1000, the result of a culmination in trends concerning subsistence practices, settlement patterns, and ceramic technology. A trend toward sedentism, evident in earlier periods, and a subsistence system emphasizing horticulture eventually led to a settlement pattern of floodplain village communities and dispersed hamlets reliant on an economy of both hunting and the planting of native cultigens.

In the early part of the Late Woodland, the temporally diagnostic ceramics in the Northern Virginia Piedmont region include Potomac Creek, Shepard, and, in the upper Coastal Plain, Townsend ware ceramics; as noted above, Townsend ware is a shell tempered ware that developed from Mockley. Shepard ceramics are likely an outgrowth of the Albemarle wares, given similar attributes of paste and surface treatment. The surfaces of the above noted wares are almost exclusively cord marked, with the exception of the fabric impressed Townsend series specimens. In most cases, the cord marked surfaces were smoothed prior to firing the vessel, in some cases nearly obliterating the surface treatment. This is a trend that seems to become more popular through the Late Woodland period.

In the Potomac Piedmont, the crushed rock wares are replaced by a shell tempered ware that spread out of the Shenandoah Valley to at least the mouth of the Monocacy River at about AD 1350-1400. Shell tempered Keyser ceramics, a downstream variant of the Late Woodland Monongahela ware common in the Upper Ohio River Valley, extend nearly to the Fall Line, although they are not found in Coastal Plain settings. Triangular projectile points indicating the use of the bow and arrow are often considered diagnostic of this period as well. However, triangular projectile points have also been recovered from well-defined and earlier contexts at regional sites such as the Abbot Farm site in central New Jersey, the Higgins site on the Inner Coastal Plain on Maryland's Western Shore, and the Pig Point site in Anne Arundel County, Maryland (MAC Lab 2012; Luckenbach et. al. 2010). Additionally, triangular points have been found in context with Savannah River points in Fairfax County, although the context appears to have been mixed (Christopher Sperling, personal communication 2015).

The Late Woodland period is also marked by a marked increase in ceramic decoration. Most of the motifs are triangular in shape and applied by incising with a blunt-tipped stylus. The marked increase of ceramic decoration and the various design motifs on Late Woodland pottery compared to earlier periods likely reflect the need to define ethnic boundaries and possibly smaller kin sets. Neighboring groups that may have been in low level competition for arable riverine floodplains may have used varied embellishments of basic design elements to set themselves apart from one another. Additionally, in a noncompetitive setting, ceramic designs simply may have served to distinguish between individual social groups, as the region now sustained the highest population level of the prehistoric sequence. As such, ceramic design elements functioned as a symbolic

means of communication among groups, serving as badges of ethnic identity or, perhaps, smaller intra-group symbols of identity.

As noted above, Late Woodland societies were largely sedentary with an economy relying on the growth of a variety of native cultigens. Late Woodland settlement choice reflects this horticultural focus in the selection of broad floodplain areas for settlement. This pattern was characteristic of the Piedmont as well as the Coastal Plain to the east and the Shenandoah Valley to the west (Gardner 1982; Kavanagh 1983). The uplands and other areas were also utilized, for it was here that wild resources would have been gathered. Smaller, non-ceramic yielding sites are found away from the major rivers (Hantman and Klein 1992; Stevens 1989).

Most of the functional categories of Late Woodland period sites away from major drainages are small base camps, transient, limited purpose camps, and quarries. Site frequency and size vary according to a number of factors, e.g., proximity to major rivers or streams, distribution of readily available surface water, and the presence of lithic raw material (Gardner 1987). Villages, hamlets, or any of the other more permanent categories of sites are rare to absent in the Piedmont inter-riverine uplands.

Perhaps after AD 1400, with the effects of the Little Ice Age, an increased emphasis on hunting and gathering and either a decreased emphasis on horticulture or the need for additional arable land required a larger territory per group, and population pressures resulted in a greater occupation of the Outer Piedmont and Fall Line regions (Gardner 1991; Fiedel 1999; Miller and Walker n.d.). The 15th and 16th centuries were a time of population movement and disruption from the Ridge and Valley to the Piedmont and Coastal Plain. There appear to have been shifting socio-economic alliances over competition for resources and places in local exchange networks. Factors leading to competition for resources may have led to the development of more centralized forms of social organization characterized by incipiently ranked societies. Small chiefdoms appeared along major rivers at the Fall Line and in the Inner Coastal Plain at about this time. A Fall Line location was especially advantageous for controlling access to critical seasonal resources as well as being points of topographic constriction that facilitated controlling trade arteries (Potter 1993; Jirikowic 1999; Miller and Walker n.d.).

HISTORIC CULTURAL CONTEXT AND PROPERTY HISTORY

The Windmill Hill project area includes the Wilkes Street right-of-way [ROW], 500 S. Union St. [Parcel 1], a lot with no address historically associated with 520 Lee St. [Parcel 2], the Gibbons St. ROW, and 600 S. Union St., which was historically divided into two lots and is discussed as such [Parcels 3 and 4] (Figure 4). Like other waterfront property, the project area has a complex chain-of-title with a few gaps compiled from maps, deeds, and advertisements, revealing numerous owners, partnerships, law suits, subdivisions, and consolidations. The Chain of Title is summarized within the discussions below and included as Appendix II.

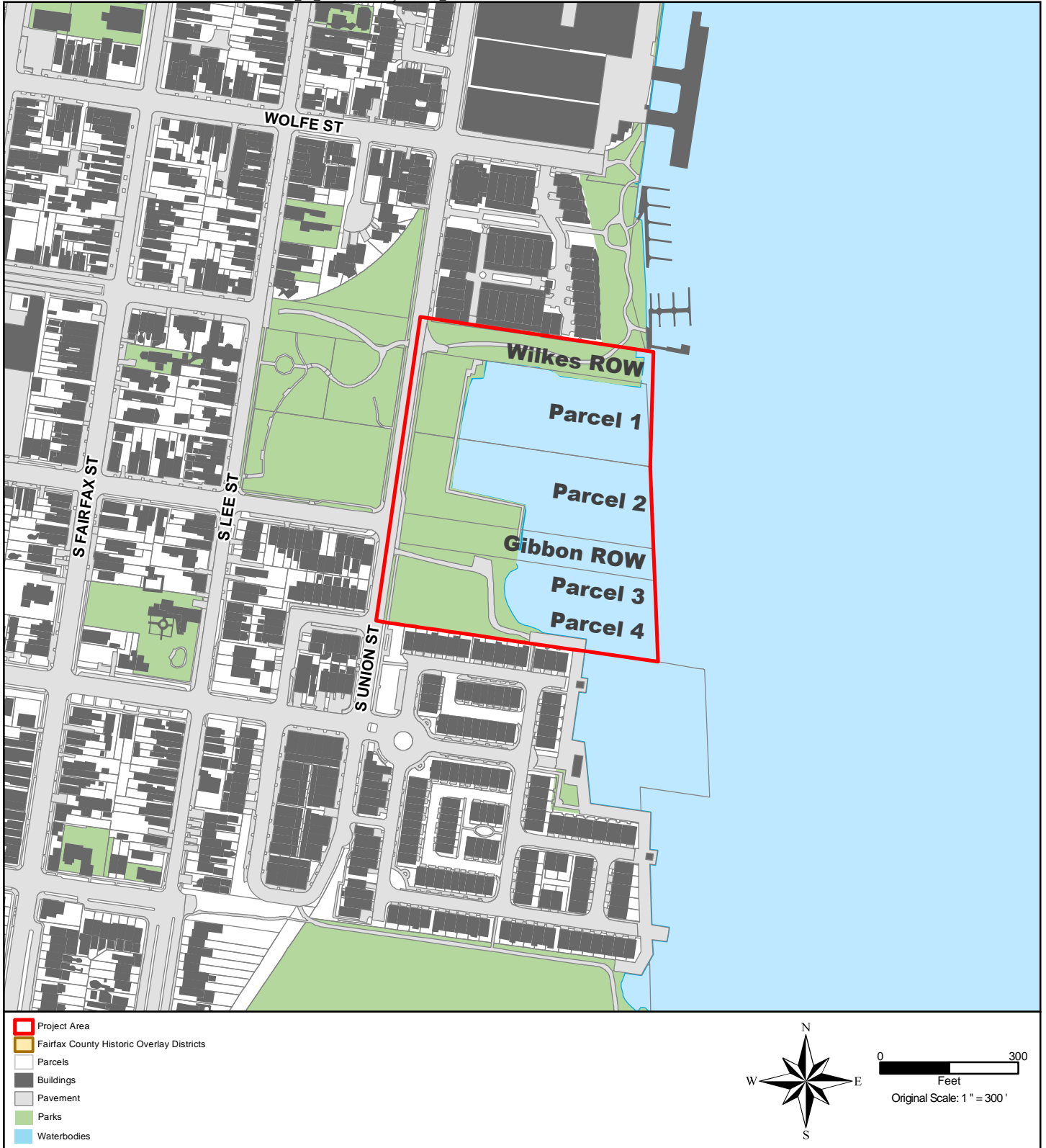


Figure 4
Park Property Boundary Showing Parcels

From Tobacco Port to Birth of a Nation (1732 – Ca. 1800)

The town of Alexandria began circa 1732 as a tobacco trading post on Hugh West's land on the upper side of Great Hunting Creek. The area was a focal point for commerce because of the presence of the tobacco warehouses and inspection station, making it a good location for a town. In anticipation of the development of Alexandria as a town site, John West Jr. surveyed the land north of Hunting Creek in 1749; a copy of the survey map made by 17-year-old George Washington shows the town lots bounded by Duke, Royal and Oronoko Streets stretching between two points of land on either side of a crescent shaped bay on the west bank of the Potomac (Figure 5).



Figure 5. Early Alexandria, Illustration by Elisabeth Luellen
Courtesy of Alexandria Archaeology

The southernmost point was named Point Lumley, after a ship captain who moored offshore in this location. The northern point later became known as "West's Point" and was the location of one of the first tobacco inspection stations that was established by an Act of the Virginia Assembly in 1730. The Alexandria waterfront originally consisted of high bluffs overlooking the river; the banks of the bay rose abruptly above the tidal flats, perhaps as much as 15-20 feet. At this time, the town consisted of "a scattering of wooden structures, a house, a tavern, or "ordinary", and two large tobacco warehouses" (Shephard 2006:1).

Banking Out

Soon after the establishment of the town, work began along the Potomac waterfront to improve the access of the town to the river, and vice versa. Those that had purchased lots along the river had the "benefit of extending the said Lotts into the River as far as they shall think proper" and could retain ownership of this newly created land (Ring and Pippenger 2008:139; Shephard 2006:4). Eventually, land was created in the shallow crescent bay to create more waterfront and to

increase access to the deep-water channel originally only accessible via Points West and Lumley; much of the earth used to create this land came from the bluffs that overlooked the Potomac, which were cut down and spread out in the shallow water in a process referred to as “banking out.” The creation of wharfs and the banking out process are described in greater detail in the Archeological Evaluation section of this report.

West’s Point and Point Lumley were not sold at auction with the numbered lots, but were reserved as public land owned by the town. While West’s Point and its tobacco warehouses formed the early economic hub of Alexandria, Point Lumley became the site of the town’s small 18th and early 19th century shipbuilding industry. Point Lumley was leased by the trustees of Alexandria until 1892, when the land was first sold to private individuals. The land was first leased in the 1750s to Thomas Fleming, a ship builder - although the first recorded lease that could be located was dated 1774 (Pulliam n.d.). In 1752, Fleming completed his first vessel, a 154-ton ship named the *Ranger*. By 1759, Fleming had constructed a dock for building ships at Point Lumley. Other possible landscape features associated with Fleming's use of the land may have been a large pit for hull making and storage sheds (Pulliam 2007:2).

The wharf at Point Lumley was not constructed until 1774, but became a “formidable addition to the...waterfront.” The materials to construct this roughly 55.5 by 110-foot wharf included stone from Great Falls, shingles from Norfolk, iron from Snowden Ironworks on the Patuxent River, and tree logs from Port Tobacco, MD (Shomette 1985:44 citing the Harrison Ledger Book).

Although Fleming’s operations never proved a major industry of the city, a number of vessels were built and considerably more repaired and maintained. Between the years of 1752 and 1776, nineteen vessels were constructed in colonial Alexandria, including ships, snows, brigs and schooners (Shomette 1985). The launching of the 200-ton ship *Hero* in 1760 was an event that George Washington especially noted. The ship had originally been constructed for a trading company from Whitehaven, England, but the galley later served during the Revolutionary War as part of the Virginia State Navy (Shomette 1985:35). Alexandria’s ship building industry came to a temporary halt during the early 1770’s as a result of a lack of available timber for construction (Pulliam 2007:2).

Alexandria was the largest town on the Potomac River and by the 1770s had developed into an important center for maritime trade, and participated in the flour trade with Europe and the Caribbean. By 1775, there were “20 major mercantile firms in Alexandria, 12 of which were involved in the transshipment of wheat” (Smith and Miller 1989:14). Although Alexandria flour was not considered as fine as that from Philadelphia, New York and Baltimore, flour milling served as a chief industry during the early 1780s and again in the 1790s (Smith and Miller 1989:14). The international market for flour transformed local milling into a larger and more profitable enterprise. By 1782, deep water access was needed to effectively compete with other Colonial ports, prompting the Virginia legislature to authorize the “banking out” of the high Potomac bluffs to create Union Street along the edge of the bay between King and Queen Street (Shomette 1985:79-80).

Parcels 1 through 4 and the Wilkes and Gibbon Streets Right-of-Ways

By 1773, John Alexander and his executors added Lots 143-181 to the original 1749 West survey (King and Pippenger, Ed. 2008). Lots 161 and 162, land from which Parcels 1 and 2 were banked out, were bound by present-day Lee, Wilkes, and Gibbon streets and the Potomac River before the creation of Union St. The area south of Gibbon was not mapped. The project area remained submerged at this time as did the majority of Lot 161 (Figure 6).

On August 5, 1779, the heirs of John Alexander sold Lots 161 and 162, present-day 501 S. Union St. and 500 and 520 S. Lee St., to Josiah Watson and William Harshorne. While the bay above Point Lumley was filled, the project area remained unfilled during their tenure as evident in Gilpin's 1798 map of the city (Figure 7).

Growth on the Waterfront (Ca. 1800 – Ca. 1850)

By the turn of the 19th century, S. Union St. north of the project area was an established thoroughfare home to merchants, shopkeepers, grocers, taverns, blacksmiths, coopers, warehouses and offices, and numerous other businesses and industries – some with residences located on the upper stories of the buildings. On the 400 block of S. Union St., Daniel Roberdeau, a Revolutionary War general, member of the Continental Congress, and signer of the Articles of Confederation built a distillery on Lots 93-95 and began banking out during the 1790s to "accommodate Vessels of the deepest Draught of Water, also with the convenience of stores for their cargoes" (AG 23 Sep 1790). In the early nineteenth century, a small road parallel and east of Union St. called the Strand was extended to the center of the 400 block. At this time, Isaac Entwistle leased much of the old brewery and Roberdeau's Wharf, which abutted the project area.

South of the project area, James Keith and other local investors identified a spot to develop the northern end of Battery Cove. Keith's Wharf operated from 1785 until 1849, but never surpassed those nearer to King St. In 1849, the Marine Railway and Ship Building Company took over Keith's Wharf, creating a surge of commercial and industrial activity at the southern end of the city until it closed in 1860. The 1845 Ewing map, shows the bank of the project area largely underway and S. Union St. complete to the industry to the south (Figure 8).

Wilkes Street Right-of-Way

In 1774, John Alexander sold two lots south of Lots 93-95 between Wolfe and Wilkes and Lee St. and the river to several merchants with the agreement that "a street 66' wide by the name of Wilkes shall be laid out and be forever kept open on the south side of the hereby granted two lots, beginning at Potomac River and running from thence to the westward and parallel to Wolfe Street..." (DB M:127). The southern half of the 400 block north of the project area was banked out in the late eighteenth century. Gilpin's 1798 map shows that Wilkes St. terminated at Union St. and had not yet crossed east of Union St. (see Figure 7). In 1803, John Fitzgerald sold the lease

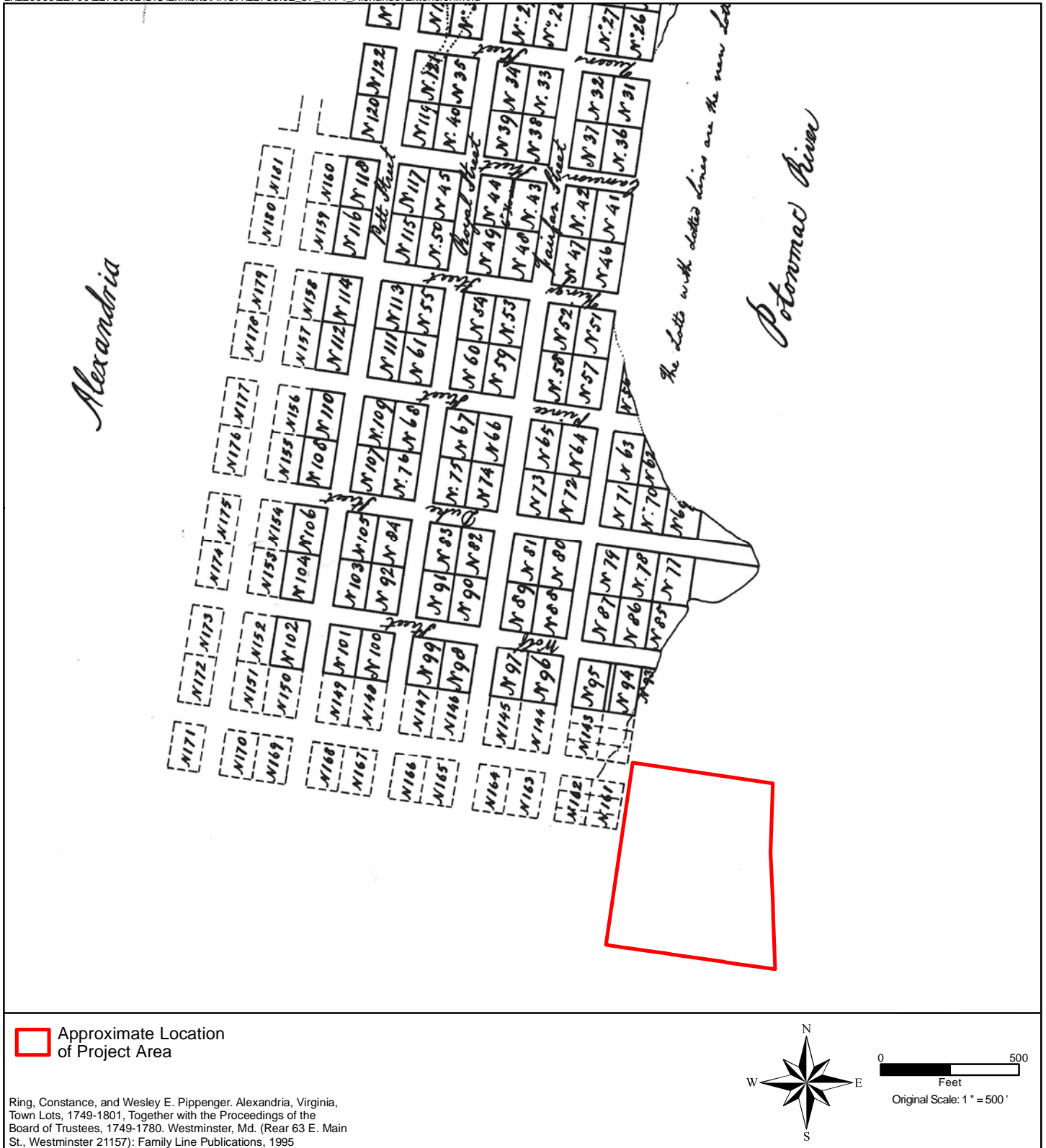


Figure 6
Drawing of Extended Lot Sequence

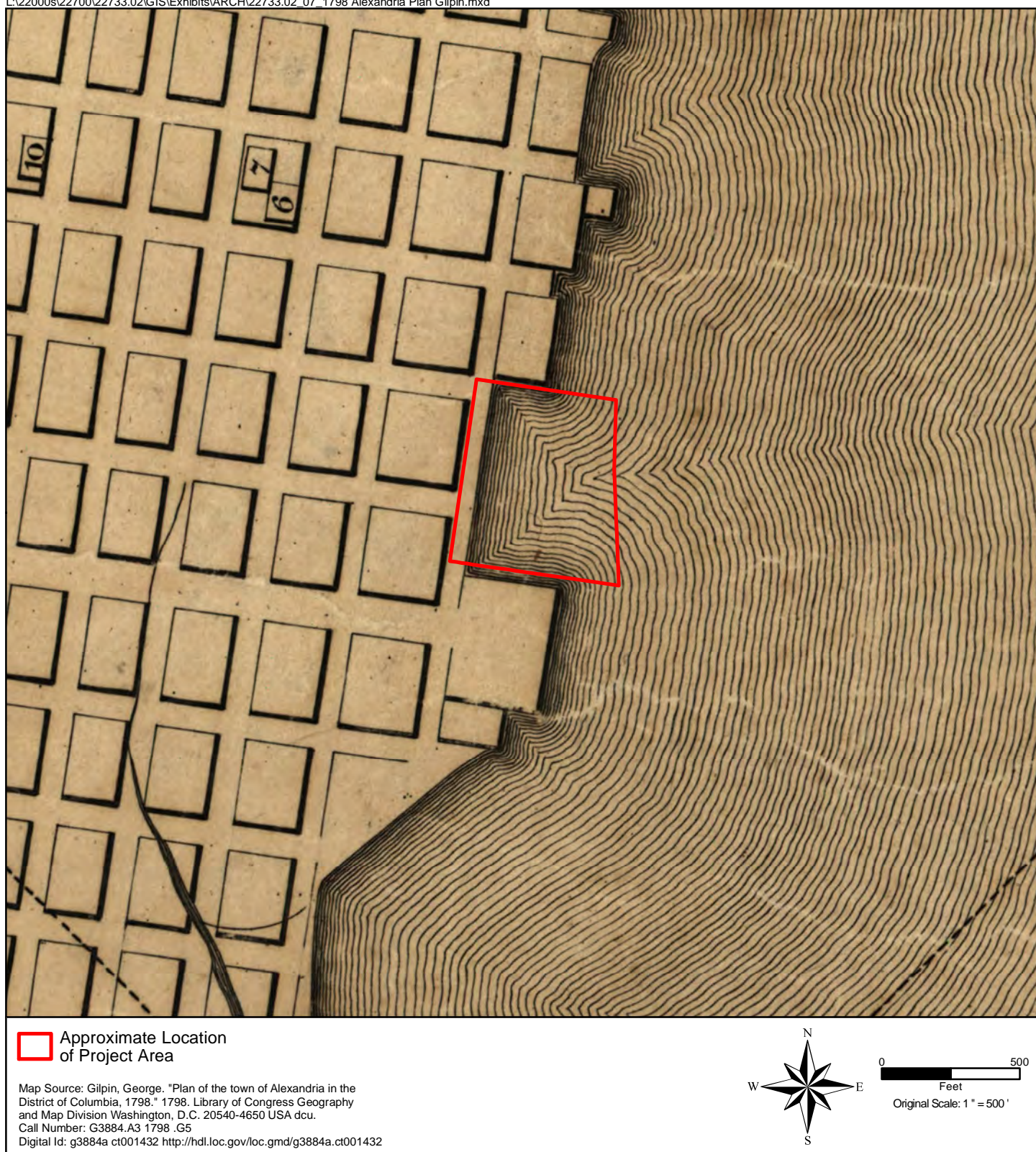



Figure 7
Plan of the Town of Alexandria in the District of Columbia, George Gilpin 1798



 Approximate Location of Project Area

Map Source: Ewing, Maskell C. "Plan of the Town of Alexandria, D.C. with the Environs Exhibiting the outlet of the Alexandria Canal, the Shipping Channel, wharves, Hunting Cr., etc.". 1845. Historic Map Scale 1:7800. Library of Congress Geography and Map Division Washington D.C. LoC call #: G3884.A3 1845 .E91 Vault

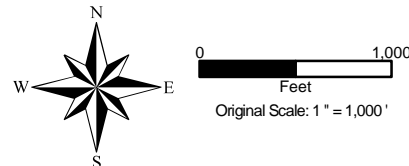


Figure 8
1845 Ewing Map of Alexandria, VA

on the southern half of the 400 block to John Hunter, who used it and reportedly the foot of Wilkes St. as a shipyard. The slow but economical Potomac River Longboat, which was a low-slung, schooner-rigged boat, was first produced at Hunter's Shipyard in 1815 (Tilp 1978). Tax records indicate that Hunter was a resident with enslaved workers, who may have lived on site until the mid-nineteenth century; though as early as 1829, Hugh Smith, a merchant who also owned the southern half of the 500 block, purchased the 400 block and other lots east of S. Union St. (Knepper and Prothro 1989).

Parcels 1 and 2: 500 and 520 Lee and South Union Streets

Two decades after William Harshorne purchased Parcels 1 and 2, they remained submerged. In 1811, he placed an advertisement, "Private Sale, A Water Lot, extending from Wilkes Street southwardly 176 feet 7 inches, and from Water Street [Lee St.] eastwardly to the river" (AG 5 April 1811). The lot did not sell and in 1812, John Janney, Trustee for Harshorne, advertised for sale "A Valuable Water Lot, in the lower part of Alexandria, fronting the breadth of a square on Water Street [500 and 520 Lee St.], and extending into the river Potomac... the next lot below John Hunter's ship-yard" (AG 23 Mar 1812:1). When the lot still did not sell, Janney advertised on May 19, 1813 (AG) that the water lot would be sold on the coming June 19 at 12:00 noon at a public venue, identified as the Coffee House.

By November 22, 1816, George and Eliza Coleman had purchased and sold Lots 161 and 162 adjacent to Parcels 1 and 2 to James L. McKenna (Deed Book C2:447). While living on Quaker Hill in the City of Fairfax, McKenna invested heavily in Alexandria real estate and leased homes, warehouses, and agricultural land on the waterfront and in areas then considered the suburbs (Miller 1995:231). On June 15, 1832, he sold Lots 161 and 162 to Robert, John, and William H. Miller, the grandsons of William Hartshorne, a previous owner, and sons of Mordecai Miller (DB 2:296).

The Millers were significant players in Alexandria commerce and the Quaker community in the early-to-mid 19th century. Mordecai Miller (1764-1832) was born in Baltimore, came to the town by 1791, and married Rebecca Hartshorne (1770-1810) in 1792. He became a renowned silversmith, clockmaker, and merchant who sold goods from around the world and acquired numerous parcels of land. He also regularly purchased and emancipated enslaved people, helping to establish a freed neighborhood, which became known as Hayti, by renting lots to black families when others would not.

The Millers had six sons, Warwick (1796-1819), Robert (1798-1874), John (1800-1878), William (1802-1870), Samuel (1802-1876), and Joseph (1805-1876). Warwick went to Maryland and Joseph became a farmer in Illinois, while the other sons engaged in trade in Alexandria. In the 1820s, John sold sugar, salt, coffee, and tobacco from the Caribbean as well as hides, sheep skin, and mahogany at Union Wharf; William joined his father's business on King Street, was director of the Bank of Alexandria, and facilitated home ownership within the black community; Robert sold china, glass, and earthenware wholesale and retail on King Street; and Samuel became a ship captain (Miller 1995).

Prior to purchase, John Miller appeared to have leased the land from McKenna by 1823 if not earlier with another local merchant, William H. Robert. During the July session of 1823, the town council granted the two men “permission to use a part of the Hulk of the Ship *Young Hero* in construction of a wharf on their water lot between Wilkes and Gibbon streets, provided, that the same be used in such a manner as to prevent its becoming a nuisance at any time hereafter” (Shephard 1988a:212). By January 1825, the men had not yet scrapped the hulk with the town council ordering again that Miller and Robert be permitted to fill the water lot with part of the ship (Shephard 1988b:29). Joseph B. Ladd, who owned the southern half of 600 S. Union St. was the council member-elect in attendance for the First Ward, where the lots were located. Almost two more years passed when a case regarding the terms of the sale of the *Young Hero* came before the Circuit Court of the District of Columbia for the County of Alexandria during the November Term in 1826. The court decreed and ordered that the riggings, sails, and materials, of the ship *Young Hero* belonging to Daniel Cole and Stephen E. Cole, Complainants, be sold to John Miller’s father, Mordecai Miller, Defendant, at Miller’s warehouse near the fish dock the following week. William Fowle, father of William H. Fowle who later purchased the north side of 600 S. Union St. represented the Coles (AG 1 Mar 1827:3).

Prior to being used to fill the water lot, the *Young Hero* shipped a vast variety of items from overseas to the merchants of Alexandria. In August of 1817 (AG), it brought casks, nails, and pork from Baltimore. On November 24, 1817 (AG), it traveled 33 days from Lisbon, Portugal to the “Capes of Virginia”, transporting salt, fruit, and wine to Mordecai Miller. On September 19, 1818 (AG), 325 tons of “Swedes’ Bar Iron, well assorted” were shipped to Phineas Janney from Gothenburg, Sweden.

Less than two months later, Mordecai Miller received goods from Germany via the *Young Hero*, including “Burlaps of various qualities and prices; Hempen ticklenburgs [a coarse linen] ... Bielfeld shirting linen, (greatly superior to the Irish); Sail cloth; looking glasses; pints wine and porier bottles; quarts and liquor cases; coffee mills; crucibles...” (AG 6 Nov 1818:3). In the same notice that Mordecai Miller advertised selling goods off the *Young Hero*, he announced that he was renaming his business Mordecai Miller & Son to include his son William H. Miller (AG 6 Nov 1818:3).

All following advertisements for goods imported via the *Young Hero* were sold by Miller & Son, perhaps indicating that they had an exclusive contract with the boat operator or owned a share of it. In December 1818, M. Miller & Son posted a notice declaring, “The new and fast sailing ship *Young Hero*, W. Wilson master, will take a few hundred bbls. Freight, and can accommodate passengers handsomely at a low rate” (AG 10 Dec 1818:3). On July 16, 1819 (AG), the father-son company declared “Salt Afloat” advertising 8,000 bushels of ground alum salt and 750 “sacks blown” on the *Young Hero*, and in November, notified the public that the ship was headed for Liverpool, England (AG 10 Nov 1819:3). In 1820, Miller & Son announced the ship’s return, “50 days from Liverpool; salt, coals, crates and hardware, to H. Smith & Co. Jonh. Butcher, G. Massie & Co. and M. Miller & Son.---Twenty passengers” (AG 21 Jun 1820:3). Advertisements did not

mention the *Young Hero* after 1820, and as indicated, the ship was deemed scrap by 1823 five years after it had been declared new.

During the same time that the Millers were plotting to fill the leased water lot on the east side of S. Union, the Board of Health had appointed a committee to evaluate the land on the west side of the street. On July 23, 1823, the committee reported to town council on the condition of land at present-day Windmill Hill. The council ordered that after five days' notice to landowners, the "Superintendent of Police have the low ground, now a nuisance on the west side of Union Street between Wilkes and Gibbon streets, drained by cutting a suitable ditch near the head of the Springs from one side of fast land to the other, so as to confine the water in one center ditch, and cut such other small ditches as may effectually drain the same" (Shephard 1988a:211). Drainage issues persisted over the next decade as the bluff that comprised Windmill Hill was slowly filled. In 1833, the issue came before council again, one year after the Millers purchased it from McKenna. After a report from another committee appointed to "filling up the west side of Union between Wilkes and Gibbon streets", the Town Council ordered that the Superintendent of Police fill the land in such a way that it would drain towards the Potomac rather than be confined as previously prescribed (AG 25 May 1833:3). The Millers appear to have successfully filled their water lot and operated a wharf with a curving shoreline on the east side of the road evident in an 1845 and 1864 map, which shows the Miller name (see Figure 8; Figure 9). After repeated thefts of sand from the lot in 1837, possibly for use as fill elsewhere, Robert Miller ran an announcement in the paper warning "that all persons trespassing in this way in the future, will be prosecuted as for any other threat" (AG 23 November 1837:3).

Parcel 3: Northern Half of 600 Lee and South Union Streets

The lots south of Gibbon were not assigned numbers as were the earlier extensions of the city. In 1803, the water lot at the northern and southern half of 600 S. Union St. was advertised for sale, described as extending from Keith's Wharf (present-day Ford's Landing), which was located to the south, "about 120 feet to a 50-foot street called Gibbon Street" (AA 18 May 1803:1). What became of this attempted sale is currently unknown, however, it is evident that the northern half of 600 S. Union St. was developed much earlier than the southern half, appearing to have a rectilinear bulkhead by 1845 (see Figure 8).

The adjacent land at 600 Lee St. was conveyed on February 24, 1806 by John Alexander heirs to John Hughs and John Miller, who later owned a share of 500 S. Union St. (DB W2:462). They or a tenant may have begun to fill the water lot to the east as Hughs owned the property for over 30 years. Between 1837 and 1839, John Hughs conveyed a share of land on the west side of the road with a two-story brick house to Jesse T. Ramsey for a debt (DB W2:462).

In 1839, the Ramseys and Hughs sold the property to William H. Fowle, who is identified as the occupant of the property in mid-19th century maps and is likely responsible for infilling the water lot (Y2:322) (see Figure 8). In 1853, he entered into a joint venture with George Fowle, selling the land including Parcel 3 to their joint venture Fowle & Co. for \$10,000 (DB P3:310). William Holmes Fowle (1808-1869) was born to one of the major local merchants, William Fowle, who



Approximate Location of Project Area

Map Source: "Plan of Alexandria" 1864.
 Historic Map Scale 1:5,400. Chart #32
 Image from NOAA's Office of Coast Survey
 Historical Map & Chart Collection:
<http://historicalcharts.noaa.gov>.

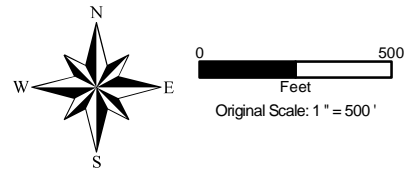


Figure 9
1864 Plan of Alexandria, Virginia

was the President of Old Dominion Bank and the Alexandria Canal Company. He attended Harvard in the 1820s and returned to Alexandria, where he married Elizabeth Thacker Hooe from another prominent family in 1831 (Miller 1995:132).

Parcel 4: Southern Half of 600 Lee and South Union Street

The banked out land on Parcel 4 likely dates to the 1870s based on cartographic evidence and deed research. Rights to the water lot are unclear and appear to vary between occupants on the 600 block of Lee St. and various industries that occupied present-day Ford's Landing. On September 16, 1795, heirs of John Alexander, William and Lucy, rented the southern half of present-day 600 Lee St. directly west of the water lot to George Hunter, whose family operated the shipyard directly north of present-day 500 S. Union St. (DB H:396). In 1814, the lease was reentered, noting that 13 years rent was overdue at £6 s.5 per year (DB Y:352). While George Hunter was renting the property west of the water lot, the Alexanders sold it to Robert and Ann Clifton Patton, who continued the lease. On September 22, 1813, they sold the "tenement in possession of the heirs of George Hunter" for \$576 to John G. Ladd (DB AA:55).

Between 1813 and 1834, the Lee St. property transferred to heirs, and on December 4, 1834, John Hoff, Trustee for Joseph and Eliza Ladd, sold the property to William H. Irvin, who operated the Porter and Ale Brewery on the northern half of the 400 block of S. Union St. (DB V2:286). In 1839, Irvin sold it for \$950 to George H. Smoot, who occupied the property for nearly a third of the century, though, the water lot does not seem to have been built out nearly as much as his neighbors in his tenure (DB Z2:364) (see Figure 9).

Like other waterfront landowners, Smoot (1801-1870) was a merchant, owned numerous parcels of land, and played a significant role in the development of the town, serving as the first president of the O&A Railroad, president of the Bank Old Dominion, president of the Alexandria Water Company, and director of the Chesapeake & Ohio and Alexandria Canal Co. As a merchant, he primarily sold coal and lumber, including Domingo mahogany, pine timber, and white oak from areas near the land he purchased in 1839 (Miller 1995:332)

Railroads, Civil War, and Reconstruction (Ca. 1850 – Ca. 1890)

On May 23, 1861, Virginia formally seceded from the Union by a vote of 97,000 to 32,000 (Bowman 1985:51, 55). In a public referendum, Alexandrians voted 958 for and only 106 against secession (Smith and Miller 1989:83). The morning after Virginia voted to secede; Federal troops entered Alexandria as Confederate troops exited the city to the west. Alexandria would remain an occupied city throughout the duration of the War. Private homes and businesses were taken over by the occupying army, and the city was used as a staging point for the various military campaigns in Virginia.

The main impetus for occupation of Alexandria was its rail connections with the South. The passage of the Railways and Telegraph Act of January 31, 1862, granted the federal government authority to control all Northern and captured Southern railroads. Control of the railroads was

considered key to victory in the war. The City of Alexandria was the terminus of three strategic lines, the Alexandria, Loudoun and Hampshire (AL&H), Alexandria and Washington Railroad (A&W), and the Orange & Alexandria (O&A).

Around 1830, Thomas W. and Richards C. Smith started the Alexandria Foundry of T. W. and R. C. Smith on the northern side of the 400 block and manufactured “High and Low Pressure Steam Engines, Fire Engines, Patent Rope Machinery” (AG 15 Apr 1835). In 1851, they built the Pioneer, the first steam engine for the Orange and Alexandria Railroad, which ran down Union St. from Oronoco to the newly completed Wilkes St. Tunnel northwest of the project area (AG 7 May 1851). Thatcher Perkins, former master mechanic for the B&O Railroad, joined the company, which was renamed Smith and Perkins Foundry the following year. They went on to manufacture at least eight other engines for the O&A and hundreds more for other railways. Despite great demand, the company closed due to financial difficulty in 1855. With its closing, J.P. Agnew redeveloped the 400 block as a coal yard prior to the Civil War.

During the war, the Union Army occupied Agnew’s Coal Yard at the 400 block and continued to use it as such, though, the Quartermaster did not map most of the project area to illustrate this as they had with the rest of the city (Figure 10). The Military Construction Corps used the abandoned Marine Railway and Ship Building Company site south of the project area as a supply depot from 1860 to 1865 (Tilp 1978:181). Following the war, Agnew resumed business and in 1883, purchased Portner's Marine Railway and Shipbuilding Co. on the 600 block and changed the name to the Virginia Iron Ship Building Company. For a short time, he combined the businesses on the 400 and 600 blocks to form the Alexandria Marine Railway, Shipbuilding and Coal Company, which bookended the project area and were connected by a new extension of the railroad down Union St. (Figure 11). The company remained in operation under various owners and names until 1932, linking to the New England coal trade and shifting from construction of large ships to the repair of smaller vessels.

Wilkes Street Right-of-Way

During the war, the rail had not yet reached the waterfront, and the Wilkes ROW appeared as a sandy beach on the General Quartermaster’s map with a bulkhead on the northern boundary. Contraband Quarters were located adjacent to the project area to the north (see Figure 10). After the war, the O&A merged with the Washington City, Virginia Midland, and Great Southern Railroad (W.C.V.M.&G.S.), which was controlled by the B&O Railroad, and extended a spur from the Wilkes St. tunnel across Union St. into the project area, where it forked into two parallel tracks ending at the river (Alexandria Special Collections Vertical Files: Railroads) (see Figure 11). Another spur turned north from the tunnel curving through the eastern side of the 400 block and terminating at another wharf. Between the two, schooners docked to be filled with coal. In 1877, the B&O operated the rail and ferry at the Wilkes St. terminus. In 1885, the Marine Railway terminated at a manmade dock. In 1896, the dock was described as the transfer wharf with a storage building, shed, and shop to the north of the track and two sheds to the south of it (Figure 12).

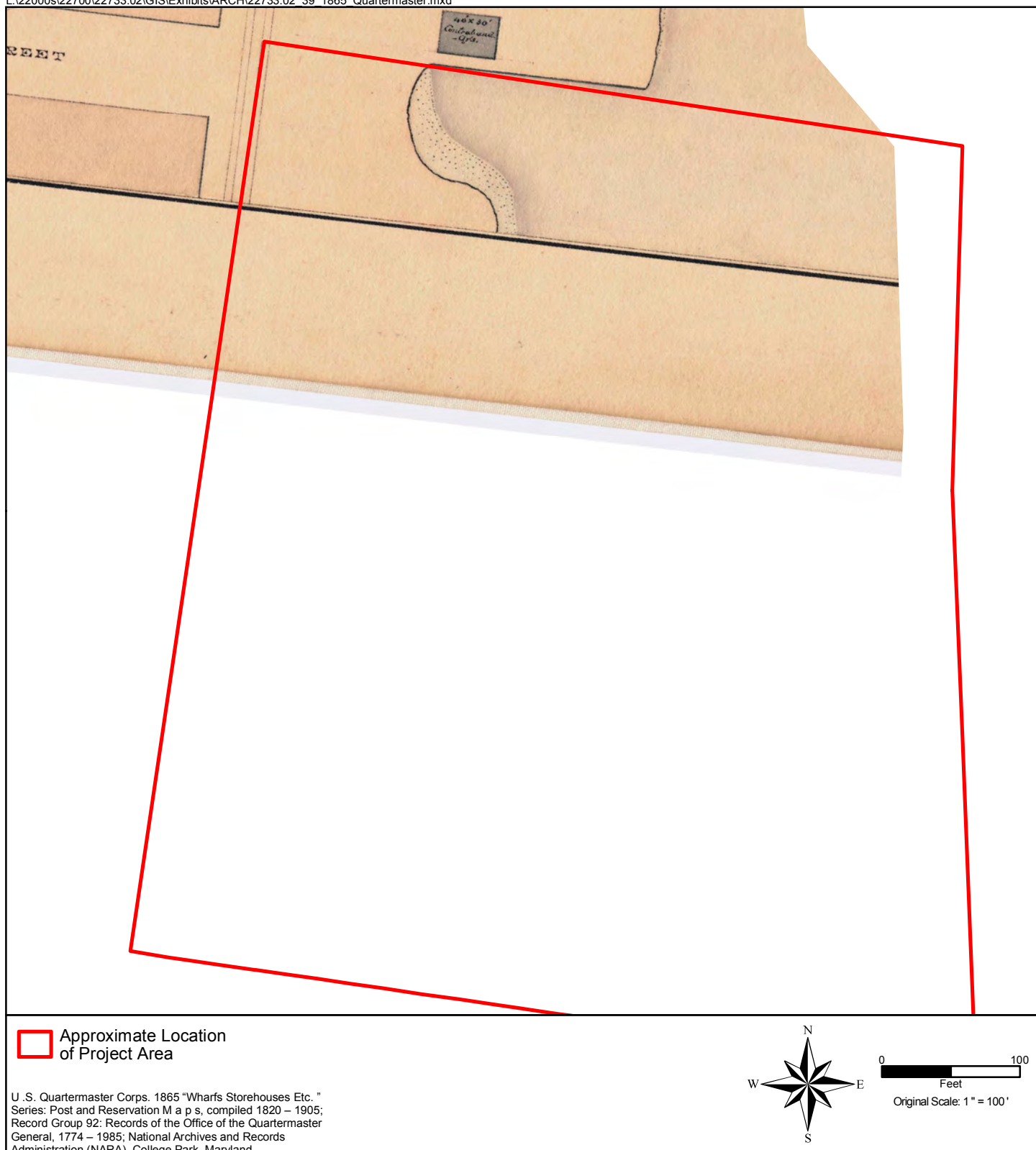


Figure 10
1865 U . S. Quartermaster Map

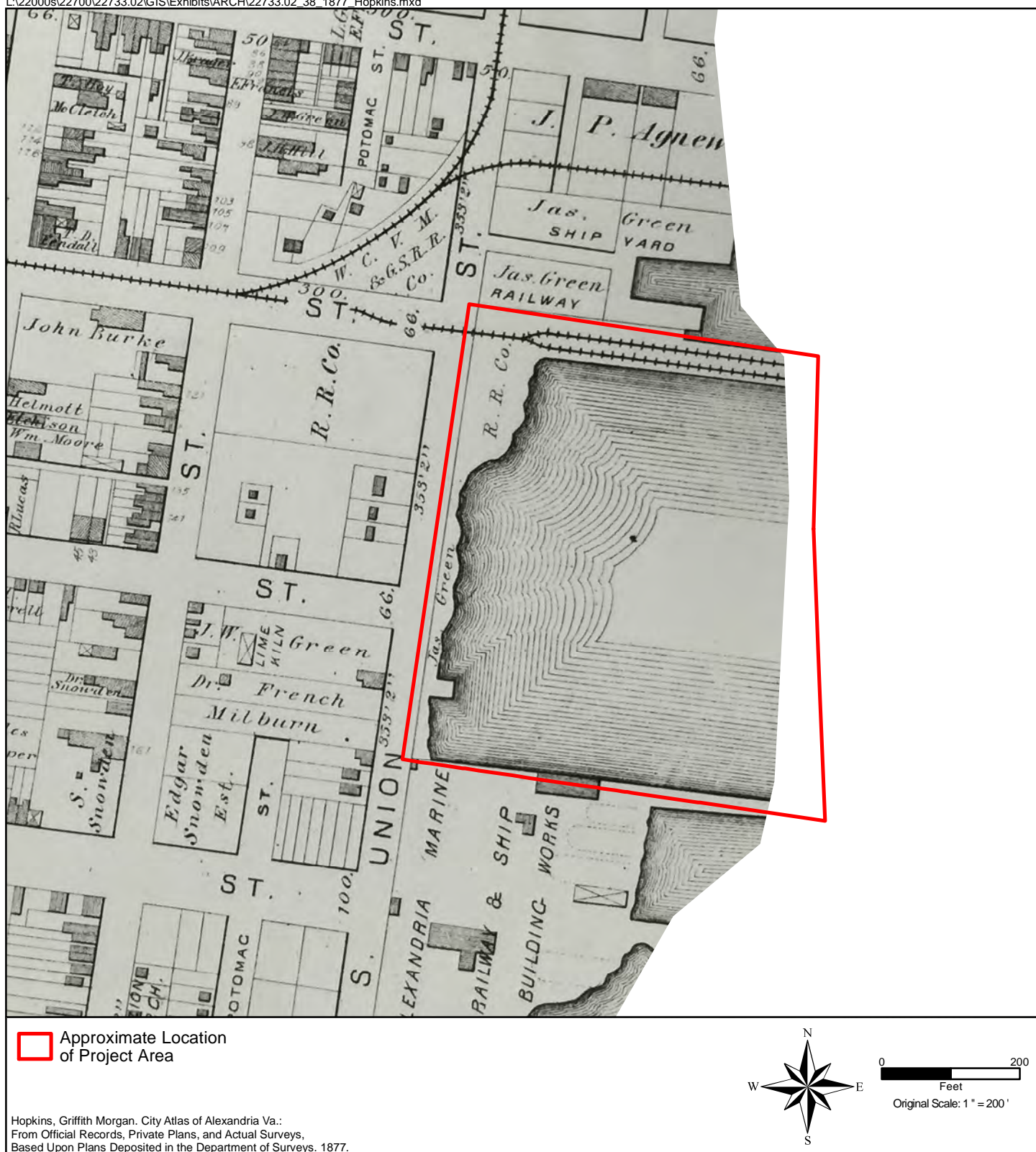


Figure 11
1877 Hopkins Atlas of Alexandria

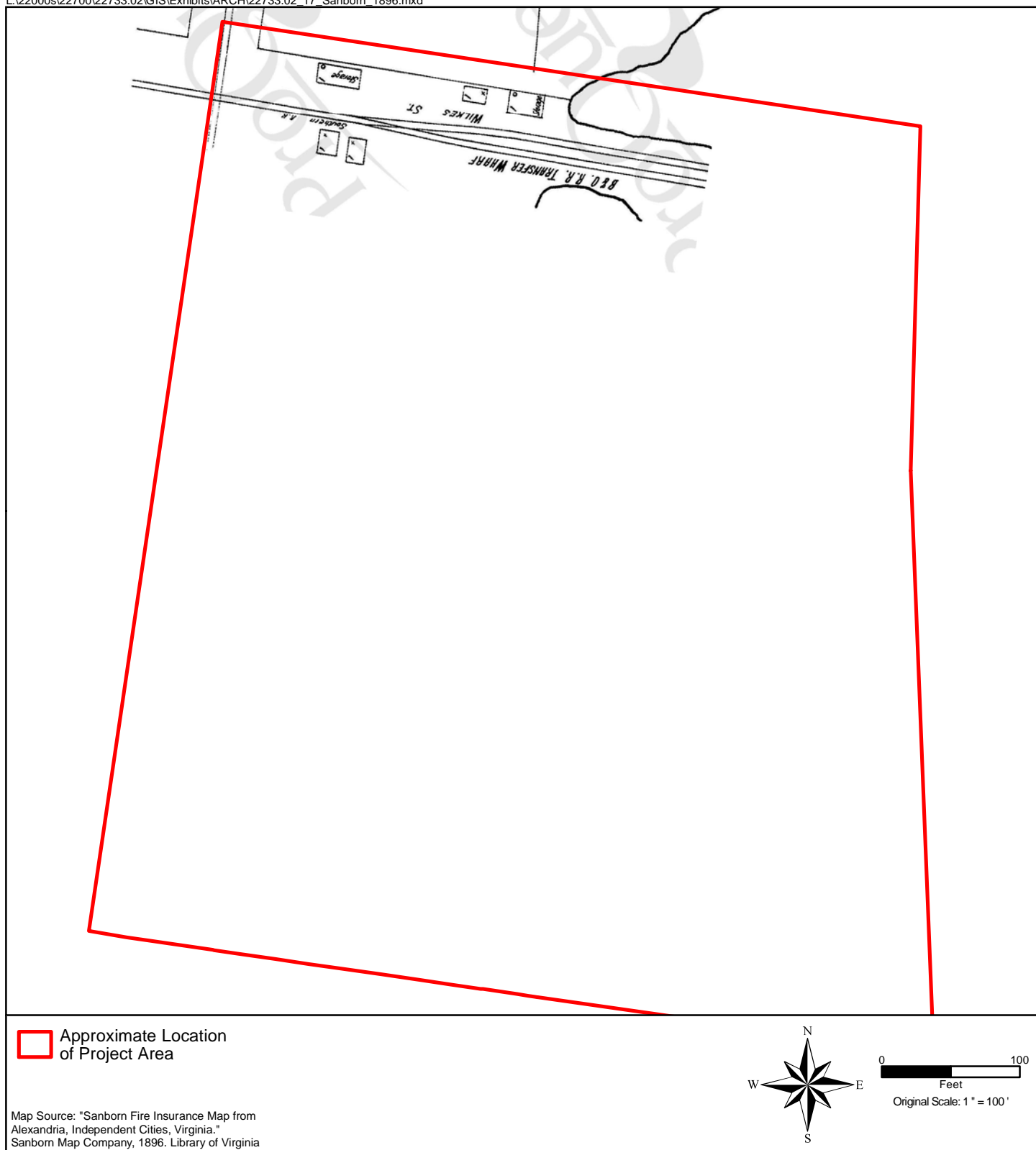


Figure 12
Sanborn Fire Insurance Map - Alexandria 1896

Parcel 1: 500 Lee and South Union Streets

After 20 years of ownership between the three merchant brothers, Robert Miller, acting as trustee, sold William's share of the northern half of the 500 block of Lee and Union (Parcel 1) to James Green on April 6, 1852 (DB 3:285). In less than a year, Robert and his wife Anna, John Miller, and James Green and his wife Jane sold the land to the O&A on February 13, 1853 (DB P3:604).

The O&A was incorporated on March 27, 1848 by an Act of the Virginia Assembly; construction began in early 1850. By 1851, the tracks had been laid down Union Street north of the project area and connecting to the Wilkes Street tunnel. In addition to passengers, the line was used to transport guano from the Alexandria waterfront to Western Virginia, and passengers and farm products back to Alexandria (Pulliam 2011:36).

During the war, the O&A offices and rail yards (located west of the study area around Duke and Henry Streets) were developed into the operation headquarters of the United States Military Railroads (USMRR).

After the war, the railroad company appears to have banked out Parcel 1 farther toward the channel, but did not build any structures (see Figure 11).

Parcel 2: 520 Lee and South Union Streets and Gibbon Street Right-of-Way

Though a deed has not yet been identified, newspaper advertisements suggest that the Millers and Greens initially divided the square now bound by Lee, Wilkes, Union, and Gibbon and sold the Parcel 2 to Hugh Smith a short time before they sold Parcel 1 to the railroad (see Figure 9). Throughout 1853 and 1854, Hugh Smith and Henry Wattle of Smith & Wattle advertised their Alexandria Steam Saw-Mills at the corner of Union and Gibbons streets. "We have constantly on hand, and for sale, a large supply of white and yellow pine timber, and Eastern Shore white oak. Orders for lumber sawed to sizes, filled with dispatch, and upon reasonable terms" (AG 25 Aug. 1853:2; AG 1 Nov. 1854:1)

After two years of extensive advertising, Smith & Wattles' property was advertised in a tax sale for not paying city taxes on present-day 520 Lee and S. Union streets. The city notified the public that they owed \$36 for the lot on Gibbon, Lee, and Union and \$63 for the adjacent lot on Gibbon, Union, and the river. Those and other properties were to be sold at public auction on April 7, 1858 (AG 15 Jan 1858:3); however, in 1864 mapping continues to show Hugh Smith as the occupant of these two lots with the land partially infilled (see Figure 9).

In 1865, Smith & Wattles "Saw Mill at the foot of Gibbon" was destroyed by fire (AG 16 Sep 1912:2). Whether they rebuilt is unclear, but they continued to own the land until at least October 1874, when the lot on "Union, Gibbon, and river" was advertised for \$458.20 in another tax sale as they owed \$158.20 (AG 22 Aug 1874:4).

Deeds were not identified for the years between 1874 and 1893, though the 1877 map shows that James Green was associated with two lots to the north of the project area as well as most of the project area – Parcel 2, the Gibbon St. ROW, and Parcels 3 and 4 (see Figure 11). Between Agnew's enterprises, Green took over Hunter's Shipyard where by 1877, he was building two-masted schooners and punyboats. In 1880 Green leased the yard on the south side of the 400 block to Charles Ward of Maine, who renamed it the Potomac Manufacturing Co. and began manufacturing three-mast schooners (Tilp 1978).

During his tenure, *The Evening Star* reported that the Gibbon St. dock was vacant while the Wilkes St. dock was occupied by the Midland Railroad ferry, one of many successors of the O&A (14 June 1882:8). By 1888, photographic evidence shows a small shop at the foot of Gibbon Street in the project area and that the wharf was bustling with the City of Washington Ferry Boat and two tugboats docked (Figure 13).



Figure 13. 1883 East side of S. Union St., Showing A Building and the Tugboat George W. Pride (Left) On North Half of 600 S. Union St.; Shop and Steam Ferry Boat City of Washington at the Foot of Gibbon St.; and an Unidentified Tugboat on 500 Block of S. Union St. (Alexandria Library Special Collections, Smith Collection; Maryland State Archives, Tilp Collection)

Parcel 3: Northern Half of 600 South Union Street

In 1864, a house on the corner of Union and Gibbon streets belonging to Fowle & Co. was repossessed and sold in a tax sale to L.F. Chittenden for \$60. This appears to be on the west side of S. Union St. (AG 30 Jan 1864:2). A few years after the Civil War, William Fowle's brother and partner George died. He sold Parcel 3 to Fannie L. Taylor on October 1, 1868 for a dramatically lower price than he had paid (DB Y3:634). She sold a sixth share to S. Ferguson Beach in 1871 (DB 21:233). He sold his share in 1884 to John W. Green (DB 21:233). How all the shares transferred to the Greens is unclear, but by 1915, a large portion of the 600 block of Lee St. and the northern half of 600 S. Union St. belonged solely to his heirs J. Johnston Green and his wife.

Parcel 4: Southern Half of 600 South Union Street

On October 29, 1872, Smoot's daughter Mary French and her husband David purchased the property west of Union from the other Smoot heirs (DB 2:445). There was minimal land on the east side of the street at this time (see Figure 11).

Industrialization (ca. 1890 – ca. 1960)

Like much of the south, industrial development brought economic relief to Alexandria following the devastating effects of the Civil War. Left relatively intact were the shipyards and railroad tracks that serviced the waterfront, which with continued expansion was vital to business operations on the waterfront. The 1896 Sanborn update showed the former site of Marine Railway, Shipbuilding and Coal Company to the north of the project area occupied by the Haskin Wood Vulcanizing Plant, which was involved in a lawsuit regarding land in the project area in the 600 block of S. Union. The Haskin Plant occupied a large brick building once owned by the Smith's Foundry north of the project area. By 1902, the Osage Manufacturing Co. moved into the space to produce paint. Five years later, the Alexandria Light and Power Company took over the building and enlarged the space multiple times over the coming decades. During its tenure, the company changed its name to the Alexandria County Lighting Company and finally the Virginia Public Service Company. By the 1940s, additions covered most of the east side of the 400 block and Union St. from Wolfe to Wilkes Streets (Knepper and Prothro 1989; Engineering-Science, Inc. 1993). To the south, the old shipyards became linked to the use of Parcel 4 discussed below.

Wilkes Street Right-of-Way

By 1896, a traffic light was installed at Union and Wilkes by order of the City Council and small frame structures were erected by the railroad within the project area (ES 14 Jan 1891: 5) (see Figure 12). From 1900 to 1917, Charles Dean of Maryland took over the southern half of the shipyards north of the project area and focused on the repair of smaller river vessels, erecting a number of small buildings in the Wilkes St. ROW (Tilp 1978; Knepper and Prothro 1989).

In 1907, it was improved with linear bulkheads and two B&O rails ending at a barge slip, which appeared to have frame shelter over it, and north of the parallel tracks there was what is presumably

Dean's one-story shed, a building labeled junk, one labeled bunks, another shed, a boathouse, an office, (Figure 14). In 1908, the Southern Railway began to lay off workers at Potomac Yards and move all of its freight cars to Union and Wilkes streets (Figures 15 and 16) (ES 2 Feb 1908:14). By 1921, the tracks and barge were removed and only the bunks, shed, and boathouse stood (Figure 17). In 1941, these buildings are gone, and a new track curves through the northwest corner of the ROW. There are also two dwellings and a shed larger than each dwelling (Figure 18).

Parcel 1: 500 Lee and South Union Streets

In earlier maps, the Sanborn Fire Insurance Company did not include land south of the Wilkes St. ROW, but by 1921, mapping showed Parcel 1 as occupied by two frame boat shops, a dwelling, and a boat house (see Figure 17). Parcel 1 was owned by subsequent railroad companies until 1940, when the Southern Railway Co. sold the northwest quadrant of Windmill Hill Park at 500 Lee St. During this period, it continued to lease the land, and thousands of houseboats known as arks were tied up along the Virginia shore or anchored permanently and built up on pilings (Tilp 1992) (Figure 19). By 1941, only one storage unit was on the property (see Figure 17). The company maintained the northeast quadrant at 501 S. Union St. and the waterfront at 500 S. Union St. until February 11, 1976, when it sold those lots to the City of Alexandria, which was already operating a park on the west side and a Yacht Basin on the east side of the road.

Parcel 2: 520 Lee and South Union Streets and Gibbon Street Right-of-Way

On April 6, 1893, The Haskin Wood Vulcanizing Co. of Washington, D.C. acquired Parcel 2 at public auction (DB 30:119), then sold it to Park Agnew and M.B. Harlow on June 4, 1895 (DB 33:555). In 1876, Agnew was elected President of board of directors for Alexandria Marine Railway Company. He also operated the shipyards two lots south at present-day Ford's Landing (ES 20 April 1876:4).

Upon Park Agnew's death, his wife Laura sold half a share to John Mitchell, Jr. and Harlow in 1912 (DB 62:307). In 1921, several buildings appear on the southernmost tip of their land and encroach into the Gibbons ROW, including a barber, a possible ark, three dwellings, and a shed (see Figure 17).

Heirs of Park Agnew sold the land to Gardner L. Boothe in 1918 (DB 62:307). He in turn sold half an interest to Lafayette Park Development Company, in which the Harlows had an interest, in 1926 (DB 88:133). Perhaps due to the Depression, the Company appears to have dissolved with the land being sold to Leo and Mary Harlow on May 17, 1934 (DB 117:90). The last transaction relevant to the southern half of the 500 blocks of Lee and Union occurred on July 28, 1942, when the Harlows sold the property to City of Alexandria for the establishment of Windmill Hill Park. There were no structures on the property at this time (see Figure 18).

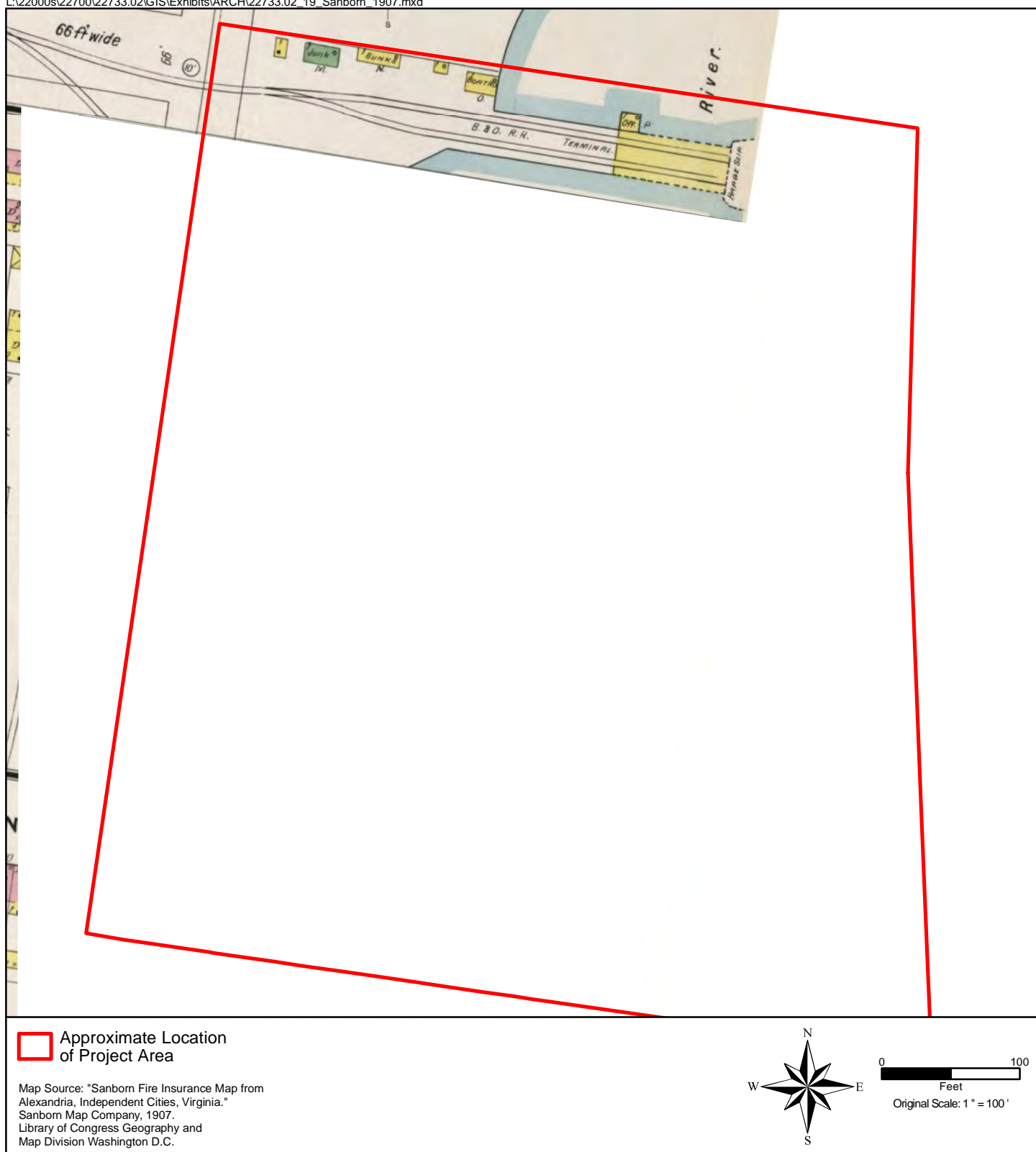


Figure 14
Sanborn Fire Insurance Map - Alexandria 1907



Figure 15. April 5, 1933 Southern Railroad at 400 And 500 Blocks of S. Union St., Showing Wilkes Street Tunnel and Boats on a Curving Shore (Alexandria Library Special Collections, Waterfront Vertical File)



Figure 16. ca. 1940 Rail Cars Parked on 500 Block of S. Union St., Looking Southeast Towards the Potomac River from Wilkes St. (Alexandria Library Special Collections, Sampson Collection)

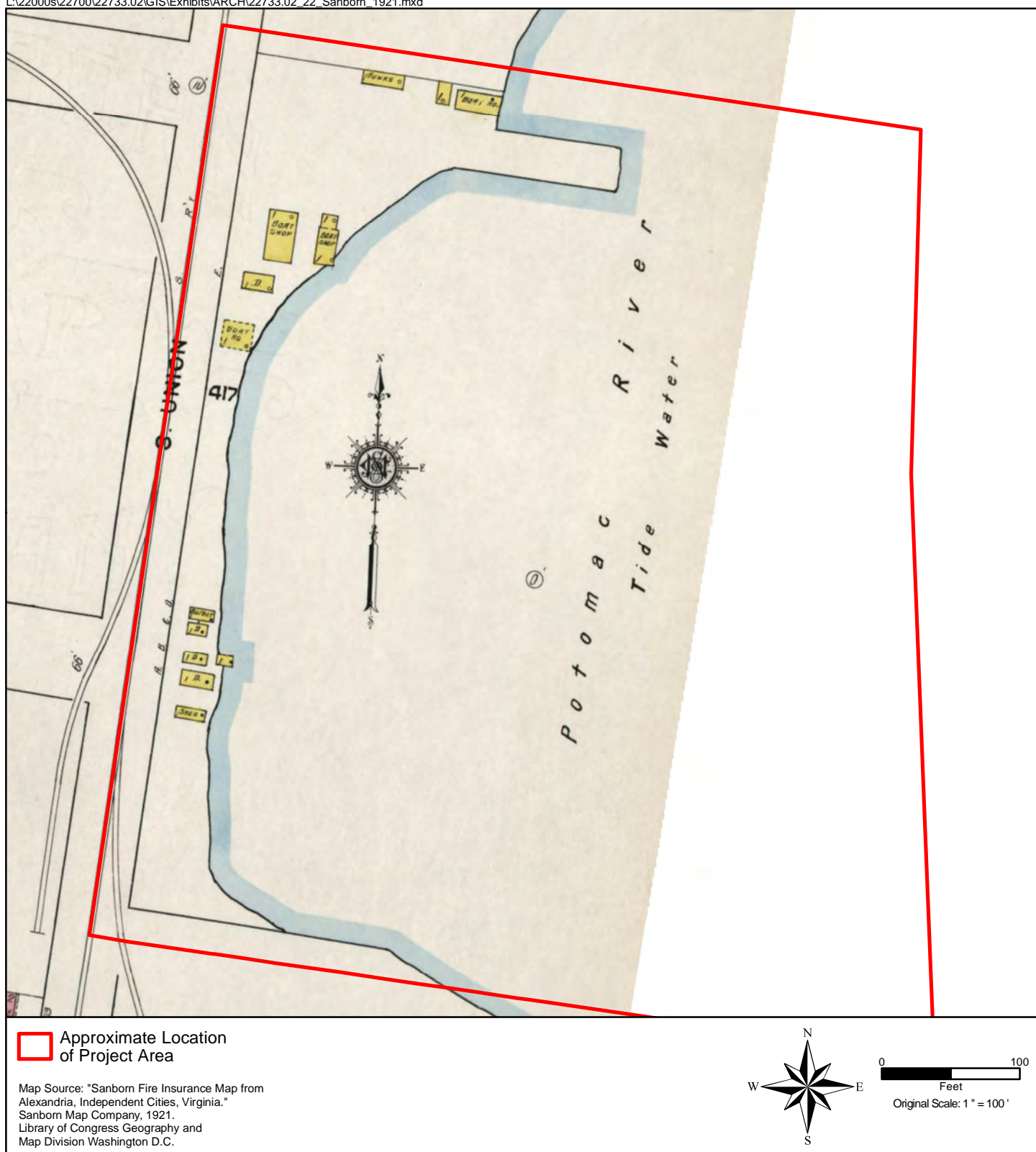


Figure 17
Sanborn Fire Insurance Map - Alexandria 1921

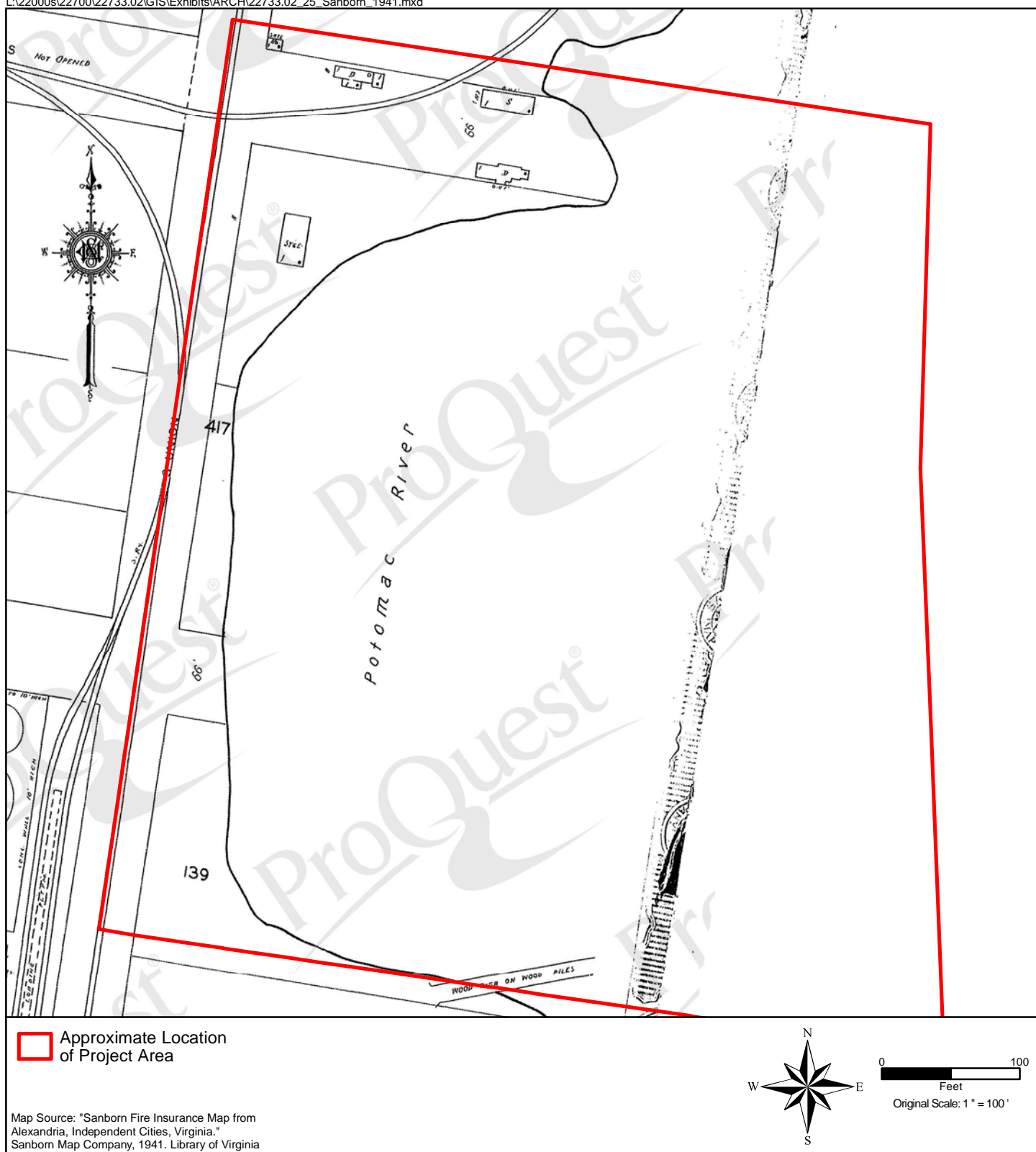


Figure 18
Sanborn Fire Insurance Map - Alexandria 1941



Figure 19. Ca. 1918 Waterfront Lots, 500 And 520 S. Union St., Looking East from Windmill Hill (Alexandria Library Special Collections, Creegan Collection)

Parcels 3 and 4: 600 South Union Street

M.B. Harlow acquired Parcel 4 in 1911 at public auction after a lawsuit between the heir of Mary Smoot French and Fannie C. Beig was resolved (DB 61:189); and Parcel 3 in 1915 from John W. Green heirs (DB 64:330). On September 11, 1918, M.B. Harlow sold the merged parcels and land on the west side of S. Union St. to the Standard Oil Co. of New Jersey for \$9,500 (DB 67:249). In 1933, the Ford Company built a factory designed by renowned architect Albert Kahn directly south (Figure 20). With the Ford Factory in place, Standard Oil overtook the whole east side of the 600 block of Lee St. and further banked out 600 S. Union St. to build an oil tank next to the Ford Factory (Figures 21 and 22).

After 50 years on the Alexandria waterfront in 1968, Humble Oil & Refining Co, successor by merger of Esso, which was formerly Standard Oil Co., sold all of its holdings to William H. Savage (DB 682:183). Five days later they sold to Marisa Smith, who was a partner in the Pommander Walk Limited Partnership, a real estate venture from which Pommander Walk within the park took its name (DB 682:413; 682:444; 722:608). The investment company only lasted seven years and the land was eventually transferred to the city to expand Windmill Hill Park (DB 810:842; 815:555; 1138:398).



Figure 20. April 5, 1933 Ford Plant, Standard Oil, and Southern Railroad at 500 and 600 Blocks of S. Union St., Showing Rail Cars, Barges, and House Boats (Alexandria Library Special Collections, Waterfront Vertical File)



Figure 21. Ca. 1940 Standard Oil Tank on East Side of 600 Block of S. Union St., Looking Southeast Towards the Ford Plant from Gibbons St. (Alexandria Library Special Collections, Sampson Collection)

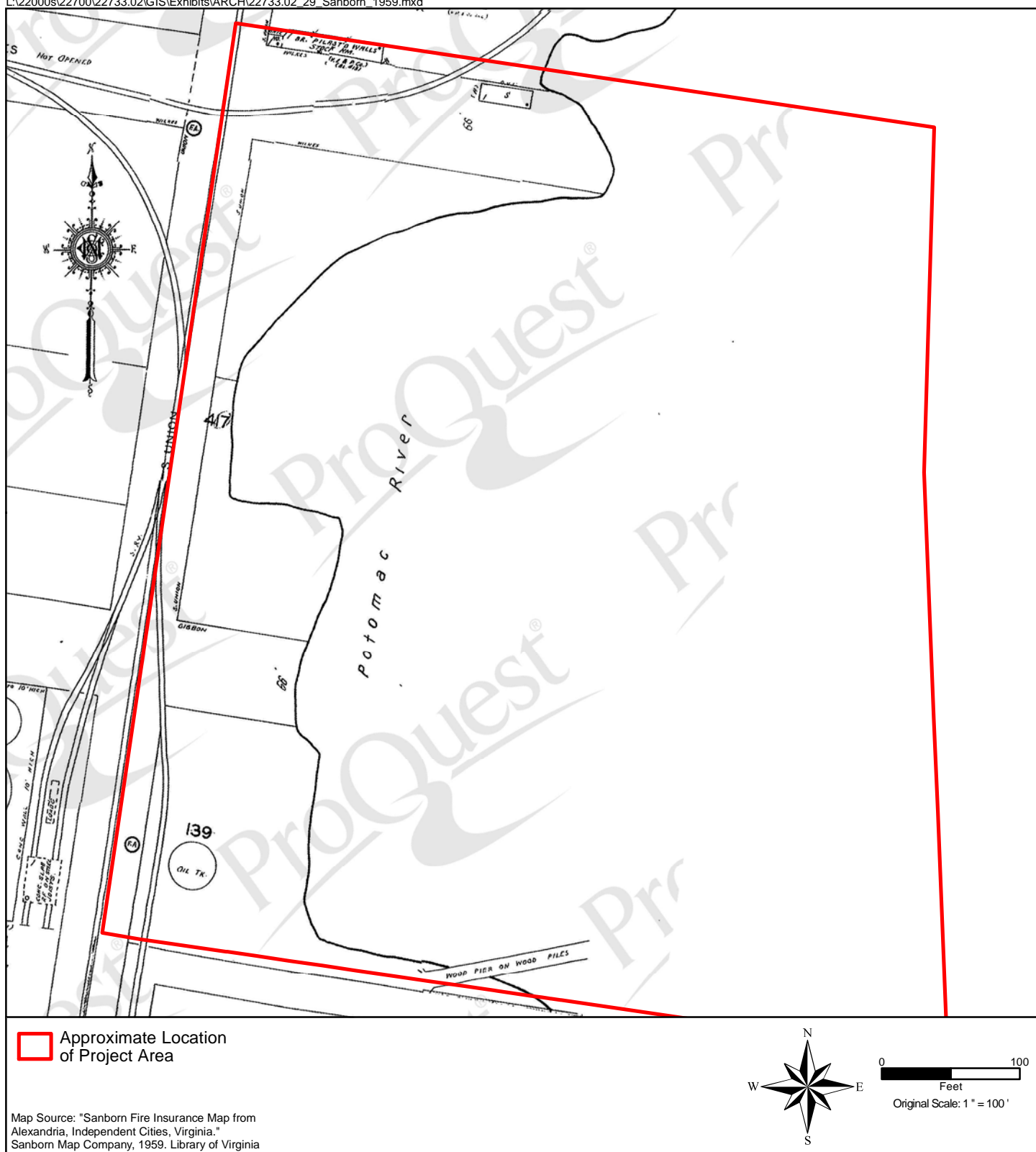


Figure 22
Sanborn Fire Insurance Map - Alexandria 1959

Recreation and Tourism (ca. 1960 – Present)

Parcels 1 through 4: Windmill Hill Park & The Old Town Yacht Basin

The topography and shoreline of Windmill Hill Park on both sides of Union St. evolved significantly during the railroad's ownership; however, its use remained fairly constant as a public gathering space even before it was a city-owned park and as a wharf where merchant ships, ferries, tugboats, and pleasure boats docked. Throughout the late 19th century, political groups for ratification, liberal Republicans, and conservative Democrats advertised their rallies and waved their flags from the freedom pole at Windmill Hill; bonfires and sandlot games often took place (AG).

Around 1940, houseboats were still prevalent (Figures 23 and 24) but by the 1950s, the city began to clear the riverfront (Figures 25 and 26). In the 1960s, the Old Town Yacht Basin, Inc. opened with a completely transformed landform and bulkhead, leasing the land from the city and other owners on the 500 block of S. Union St. while the Pommander group tried to clean up the 600 block for recreational and real estate development (Figures 27 and 28).

In the 1970s, the U.S. Naval Reservation took over the former Ford Factory immediately south of the project area (USGS 1994). During this time, the United States and City of Alexandria battled over the rights to the waterfront in an issue dating back to the settlement era with the city winning in 1981. The federal government was granted a scenic easement for a public park and recreation area. Restrictions included the following:

The park may include pedestrian walkways, bicycle trails, seating, landscaped areas, fountains, gardens, play areas, plazas, public marinas and related facilities, docking for ships, transient boats and visiting vessels, berthing for historic vessels, outdoor restaurants and cafes, small service establishments for bikers, boaters and pedestrians, museums related to the waterfront and history of Alexandria. · All uses must remain open and accessible to the public. · Height limit of 30 ft. · A 25 ft strip must be reserved for a pedestrian walkway and bike path running north to south across the park.

In 1979, the “Alexandria Waterfront, Study of Alternatives” noted that the project area contained 6.5 acres and suggested that Pommander Walk being oriented towards water activities and the City Yacht Basin be upgraded and expanded for more docking facilities.

In 1992, city began to raze a dilapidated marina office at the Yacht Basin only to find that the shack was an ark or old wooden barge dating to ca. 1900; “thousands of houseboats, gambling barges and floating brothels... lined the Potomac River from the Civil War to after World War II” (Hodge 1993). The boat was removed with plans to place it in a museum.



Figure 23. Ca. 1940 Houseboats and Ford Plant on 500 and 600 Blocks of S. Union St., Looking Towards Potomac River from Lee St. (Alexandria Library Special Collections, Smith Collection)



Figure 24. Ca. 1950 House Boats on Waterfront (Alexandria Library Special Collections, Sampson Collection)



Figure 25
March 1949 Black and White Imagery



Figure 26. September 1956 View of Potomac from Wilkes St. (Alexandria Library Special Collections, Gamble Collection)



Figure 27. ca. 1960 City Yacht Basin, 500 Block of S. Union St. (Alexandria Library Special Collections, Oversize Collection)



Figure 28
March 1964 Black and White Imagery

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

The following inventory of previously recorded cultural resources within and near the project area was established by using the Virginia Department of Historic Resources' (DHRs) online Virginia Cultural Resource Information System (V-CRIS), and by examining cultural resource files and reports at the Thunderbird Archeology office in Gainesville, Virginia.

A total of 123 archeological sites and have been identified within a one-mile radius of the project area (Table 1), three of which are recommended eligible or are listed on the National Register of Historic Places (NRHP). Site 44AX0053 is a multi-component site containing a stratified, intact Middle Woodland component and was deemed eligible for inclusion on the NRHP in 2010. Site 44AX0078 is an early 20th century shipyard with intact foundations and was deemed eligible for inclusion on the NRHP in 2000. Site 44AX0179 is the Freedman's Cemetery, which was deemed potentially eligible in 1997. The project area is located within the Alexandria Historic District (DHR 100-0121), which contains 1,626 built resources within a one-mile radius of the project area. The district is listed on the NRHP. None of the built resources are immediately adjacent to the project area. Figure 29 shows the locations of the cultural resources in the immediate vicinity of the project area.

Two archeological sites are recorded in close proximity to the project area. Site 44AX0119 is a historic artifact scatter associated with components from the 18th century to the 20th century. No evaluation on eligibility has been made for this site. Site 44AX0114 is a historic artifact scatter associated with components from the 19th and 20th centuries, as well as three prehistoric quartzite flake fragments. No evaluation on eligibility has been made for this site.

Table 1. Archeological Sites Located Within One-Mile Radius of the Project Area

| DHR Site Number | Site Type | Temporal Designation | NRHP Eligibility |
|------------------------|--------------------|---|-------------------------|
| 44AX0001 | Dwelling | 18th Century, 19th Century , 20th Century | N/A |
| 44AX0002 | Tavern/Inn | 18th Century, 19th Century | N/A |
| 44AX0003 | Other | 18th Century , 19th Century | N/A |
| 44AX0005 | Dwelling, single | 19th Century | N/A |
| 44AX0007 | Kiln, pottery | 19th Century | N/A |
| 44AX0008 | Dwelling, multiple | 19th Century | N/A |
| 44AX0018 | Dwelling, multiple | 19th Century | N/A |
| 44AX0019 | Dwelling, multiple | 19th Century | N/A |
| 44AX0029 | Kiln, pottery | 19th Century | N/A |
| 44AX0030 | Dwelling, single | 20th Century | N/A |

Table 1. Archeological Sites Located Within One-Mile Radius of the Project Area (Cont.)

| DHR Site Number | Site Type | Temporal Designation | NRHP Eligibility |
|------------------------|-----------------------|--|-------------------------|
| 44AX0033 | Other | 19th Century | N/A |
| 44AX0034 | Dwelling, single | 20th Century | N/A |
| 44AX0040 | Cemetery, Church | 19th Century | N/A |
| 44AX0042 | | Indeterminate | N/A |
| 44AX0043 | Dwelling, single | 19th Century | N/A |
| 44AX0044 | Store | Indeterminate | N/A |
| 44AX0045 | Factory | 19th Century | N/A |
| 44AX0046 | Dwelling, single | 18th Century | N/A |
| 44AX0047 | Dwelling, single | 19th Century | N/A |
| 44AX0048 | Dwelling, multiple | Unknown | N/A |
| 44AX0049 | Dwelling, single | 18th Century | N/A |
| 44AX0050 | Railroad | 19th Century | N/A |
| 44AX0051 | Tavern/Inn | 19th Century | N/A |
| 44AX0052 | Camp, base | 18th Century, 19th Century, 20th Century, Prehistoric; Middle Woodland | Eligible |
| | Camp, Camp, temporary | 19th Century , 20th Century, Archaic (8500 - 1201 B.C.), Prehistoric/Unknown | |
| 44AX0053 | | | N/A |
| 44AX0056 | Dwelling, single | 19th Century, 20th Century | N/A |
| 44AX0057 | Dwelling, single | 19th Century , 20th Century | N/A |
| 44AX0058 | Dwelling, single | 19th Century | N/A |
| 44AX0059 | Dwelling, single | 19th Century , 20th Century | N/A |
| 44AX0060 | Dwelling, single | 19th Century, 20th Century | N/A |
| 44AX0061 | Dwelling, multiple | 19th Century | N/A |
| 44AX0062 | Dwelling, single | 19th Century, 20th Century | N/A |
| 44AX0063 | Dwelling, single | 19th Century | N/A |
| 44AX0064 | Dwelling, single | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0065 | Dwelling, single | 19th Century, 20th Century | N/A |
| | Dwelling, single | 19th Century , 20th Century, Prehistoric; Woodland (1200 B.C. - 1606 A.D.) | |
| 44AX0066 | camp | | N/A |
| 44AX0067 | Dwelling, single | 19th Century , 20th Century | N/A |
| 44AX0068 | Dwelling, single | 19th Century , 20th Century | N/A |
| 44AX0069 | Dwelling, single | 18th Century, 19th Century | N/A |
| 44AX0070 | Dwelling, single | 19th Century, 20th Century | N/A |
| 44AX0071 | Dwelling, single | 20th Century | N/A |
| 44AX0072 | Dwelling, single | 19th Century, 20th Century | N/A |

Table 1. Archeological Sites Located Within One-Mile Radius of the Project Area (Cont.)

| DHR Site Number | Site Type | Temporal Designation | NRHP Eligibility |
|------------------------|-------------------------|---|-------------------------|
| 44AX0073 | Dwelling, single | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0074 | Dwelling, single | 19th Century, 20th Century | N/A |
| 44AX0075 | Hospital, Prison | 19th Century, 19th Century, 20th Century | N/A |
| 44AX0076 | Kiln, pottery | 19th Century | N/A |
| 44AX0077 | Dwelling, single | Unknown historic | N/A |
| | | | Not |
| 44AX0078 | Other | 20th Century | Eligible |
| 44AX0079 | Dwelling, multiple | 19th Century | N/A |
| 44AX0080 | Kiln, pottery | 18th Century | N/A |
| 44AX0081 | Wharf | 18th Century | N/A |
| 44AX0082 | Dwelling, multiple | 19th Century | N/A |
| 44AX0083 | Dwelling, single | 19th Century, 20th Century | N/A |
| 44AX0084 | Factory | 20th Century | N/A |
| 44AX0085 | Dwelling, single | 18th Century, 19th Century | N/A |
| 44AX0086 | Kiln, pottery | 19th Century | N/A |
| 44AX0087 | Kiln, pottery | Historic/Unknown | N/A |
| 44AX0088 | Church | 18th Century | N/A |
| | Farmstead, | | |
| 44AX0089 | Tavern/Inn | Historic/Unknown | N/A |
| 44AX0091 | Dwelling, multiple | 18th Century, 19th Century | N/A |
| 44AX0092 | | 19th Century | N/A |
| | Dwelling, multiple, | | |
| 44AX0093 | Store, Tavern/Inn | 19th Century | N/A |
| 44AX0094 | Tavern/Inn | 18th Century, 19th Century | N/A |
| 44AX0095 | | 18th Century, 19th Century | N/A |
| | Dwelling, single, | | |
| 44AX0096 | Factory | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0097 | Well | 19th Century | N/A |
| 44AX0098 | | 18th Century | N/A |
| 44AX0101 | Jail, Police station | 19th Century, 20th Century | N/A |
| 44AX0102 | Dwelling, single | 19th Century | N/A |
| 44AX0104 | Dwelling, single | 20th Century | N/A |
| | Dwelling, multiple, | | |
| | Military base/facility, | | |
| 44AX0105 | Railroad | 19th Century, 20th Century | N/A |
| 44AX0106 | Dwelling, single | 18th Century | N/A |
| 44AX0107 | Dwelling, single | 18th Century, 19th Century, 19th Century: | N/A |

Table 1. Archeological Sites Located Within One-Mile Radius of the Project Area (Cont.)

| DHR Site Number | Site Type | Temporal Designation | NRHP Eligibility |
|------------------------|-------------------------------|--|-------------------------|
| 44AX0108 | Dwelling, single | 18th Century | N/A |
| 44AX0109 | Dwelling, multiple | 18th Century | N/A |
| 44AX0110 | Dwelling, single, Stable | 18th Century | N/A |
| 44AX0113 | Dwelling, single | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0114 | Artifact scatter | Prehistoric/Unknown | N/A |
| 44AX0115 | Dwelling, single | Historic/Unknown | N/A |
| 44AX0116 | Dwelling, single | 18th Century | N/A |
| 44AX0117 | Dwelling, multiple | 18th Century, 19th Century | N/A |
| 44AX0119 | Wharf | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0120 | Warehouse | 18th Century, 20th Century | N/A |
| 44AX0123 | Wharf | Historic/Unknown | N/A |
| 44AX0125 | Dwelling, multiple | 19th Century, 20th Century | N/A |
| 44AX0126 | Distillery | 18th Century , 19th Century | N/A |
| 44AX0129 | Other | 19th Century | N/A |
| 44AX0131 | Dwelling, multiple | 19th Century | N/A |
| 44AX0132 | Cemetery | 18th Century | N/A |
| 44AX0133 | Cemetery | 18th Century | N/A |
| 44AX0134 | Cemetery | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0139 | Cemetery | 19th Century | N/A |
| 44AX0140 | Cemetery | 19th Century | N/A |
| 44AX0141 | Blacksmith shop | 19th Century | N/A |
| 44AX0142 | Well | 19th Century | N/A |
| 44AX0143 | Dwelling, single, Hospital | 18th Century, 19th Century | N/A |
| 44AX0145 | Dwelling, single, Store | Historic/Unknown | N/A |
| 44AX0146 | Warehouse, Wharf | 18th Century, 19th Century, 20th Century | N/A |
| 44AX0147 | | 19th Century | N/A |
| 44AX0148 | Railroad bridge | 19th Century | N/A |
| 44AX0149 | Earthworks | 18th Century | N/A |
| 44AX0154 | Hospital | 19th Century | N/A |
| 44AX0156 | Store | 18th Century, 19th Century | N/A |
| 44AX0157 | Dwelling, single | 19th Century | N/A |
| 44AX0159 | Hospital | 19th Century | N/A |
| 44AX0160 | Military base/facility | 18th Century | N/A |

Table 1. Archeological Sites Located Within One-Mile Radius of the Project Area (Cont.)

| DHR Site Number | Site Type | Temporal Designation | NRHP Eligibility |
|------------------------|---------------------|--|-------------------------|
| 44AX0161 | Church | 19th Century | N/A |
| 44AX0165 | Historic discard | No Data available | N/A |
| 44AX0170 | Refinery | 20 th Century | N/A |
| 44AX0171 | Dwelling, single | 19th Century, 19th Century | N/A |
| 44AX0179 | Freedman's Cemetery | 19 th Century | Eligible |
| 44AX0180 | Dwelling | 19th Century | N/A |
| 44AX0185 | Multi-component | No Data available, Phase III mitigation | N/A |
| 44AX0188 | Other | 19th Century, 20th Century | N/A |
| 44AX0192 | Dwelling, single | 19th Century, 19th Century, 20th Century | N/A |
| 44AX0196 | Distillery | 19th Century | N/A |
| 44AX0202 | Dwelling, multiple | 19th Century | N/A |
| 44AX0208-0001 | Camp, temporary | 18th Century: | N/A |
| 44AX0208-0002 | Camp, temporary | 18th Century | N/A |
| 44AX0209 | Camp, temporary | 18th Century | N/A |
| 44AX0213 | Dwelling, single | 19th Century | N/A |
| 44AX0216 | Park, Road | 20th Century | N/A |
| 44AX0218 | Well | 20th Century | N/A |
| 44AX0219 | Dwelling | 19th Century, 20th Century | N/A |

Windmill Hill Park –Documentary Study and Phase I Archeological Investigation

Few descriptions exist documenting the construction techniques used to infill the Alexandria harbor in the 18th and 19th century; therefore, the archeological record becomes even more important to complement the documentary record. At least four wharves have been documented along the Alexandria waterfront (Table 2).

Table 2: Archeological Wharf Excavations in Alexandria, Virginia

| Name | Date | Construction Type and Fill |
|-------------------------|-------------|-------------------------------------|
| 1. Carlyle-Dalton wharf | 1759 | Crib with cobbles and gravel |
| 2. Lee Street | Ca. 1780 | Bulkhead |
| 3. Roberdeau's wharf | 1785 | Pier and Bulkhead with earthen fill |
| 4. Keith's Wharf | 1785 | Bulkhead with earthen fill |

During construction of the Torpedo Factory condominiums in 1982, four sections of the Carlyle-Dalton wharf were uncovered by archeologists along Cameron Street (Heintzelman- Muego 1983). The crib wharf was constructed of yellow pine, some with bark still attached. A second wharf was discovered on the block bounded by Lee, Queen, Union and Cameron streets. The wharf remains consisted of a stone-paved surface and a timber bulkhead. Artifacts were recovered, but could not be used to date the construction of the wharf (Shephard 2006:8).

Excavations in 1989 for the Harborside Development exposed the surface of Roberdeau's wharf at the end of Wolfe Street. The wharf's surface was covered with wooden planks, with other portions covered with layers of wood, sawdust, pine tar and sand. The wharf was constructed of timber bulkheads with piled supports (Shephard 2006:9).

Archeological investigations conducted for the development of the Ford's Landing site (at the base of Franklin Street) revealed the well preserved and intact remains of Keith's Wharf bulkhead, along with "a 350-foot-long shipway, nine derelict vessel hulls, [and] a marine railway". The archeologists at Ford's Landing expected Keith's Wharf to be of cob/crib construction, but found a bulkhead wharf measuring 400 by 500 feet (Engineering Science 1993). Because the bay was shallow and located away from the fast flowing Potomac River channel, a cob/crib structure containing vast quantities of earthen fill wasn't necessary. The archeologists also theorized that this method may have been an expedient and inexpensive investment for a speculative venture.

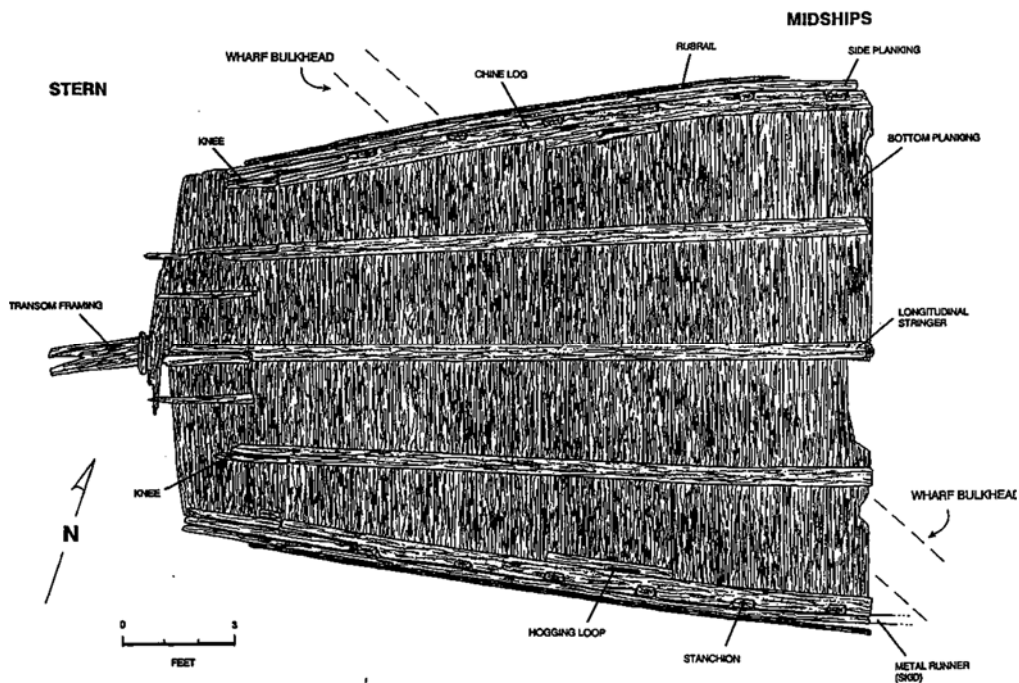
The remains of Keith's Wharf were found 6-13 feet below the modern surface. The 18th century wharf timber measured 10-17 inches in diameter and were connected by "half-lap scarf joints reinforced with iron dowels or drift pins." Tie back braces were dovetailed and pinned to the bulkhead, extended up to 30 feet into the fill and were anchored in such a manner that the fill would not "push out" on the bulkhead. Images of the bulkhead construction and of a scuttled scow are shown below (Figures 30-32).



Figure 30: Keith's Wharf Bulkhead and Tie-Back Braces
(Engineering Science 1993, Courtesy of Alexandria Archaeology)



Figure 31: Bulkhead Repairs Overlying a Barge
(Engineering Science 1993, Courtesy of Alexandria Archaeology)



**Figure 32: Plan and Photo of Feature 27, a Scow, or Flat-Bottomed Vessel
(Engineering Science 1993, Courtesy of Alexandria Archaeology)**

Archeological Monitoring of Geotechnical Boring

Archeological monitoring of geotechnical boring was conducted in September 2015 within Windmill Hill Park in Alexandria, Virginia. The work was required under the City of Alexandria Zoning Ordinance and was carried out by Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia for Kimley-Horn and Associates, Inc. of Reston, Virginia. John Mullen, M.A., RPA monitored geotechnical testing conducted at four locations (Figure 33). Two of the test bores (B1 and B2) were excavated to a depth of 100 feet; the other two tests (B3 and B4) reached an approximate total depth of 25 feet. The archeological monitoring was confined to the upper 25 feet of the soil column in all test excavation.

The soils within Test Bore B1 generally consisted of orange sandy fill overlying brownish gray sandy clay sediments in the upper 25 –foot portion of the test bore. A second bore offset was excavated to recover a better sample of the uppermost level; this test encountered wood (with a strong odor) at 15 feet below surface and was terminated without completing penetrating the wood.

The upper 4 feet of the soil column at Test Bore B2 contained gravel fragments and was interpreted as fill soil. Coal bits and wood fragments were observed in the upper 2 feet of the underlying grayish brown sediments, but no cultural materials were observed in the alluvial sediments beneath eight feet.

Brick fragments, mortar fragments, and a possible asphalt shingle fragment were identified within the spoils pile and the recovered core soil from the upper ten feet of Test Bore B3. No cultural material was observed below 12 feet in this test location.

Similarly, asphalt and brick fragments were observed in the spoil piles during the excavation of the upper ten feet of soil within Test Bore B4. Wood fragments were located within the bore sample at 5-7 feet below surface. The wood contained a strong odor and a sample was retained for analysis. Small organic fragments (wood) and miniscule specks of brick were observed at 18 feet below surface.

Generally, the soils across the site consisted of fill horizons overlying alluvial sediments. Based on data from the test bores, historic and/or modern fill is found across the project areas at depths between approximately 4 feet and 18 feet below ground surface. The fill, deposited between the early to mid-19th century and mid-20th century, is clearly associated with the banking out process. Wood fragments identified within the fill at depths ranging from 4 feet below ground surface to 18 feet below ground surface, could be non-cultural (e.g. driftwood) or archeological features (i.e. associated with wharves or, possibly, the hulk of the *Young Hero*).

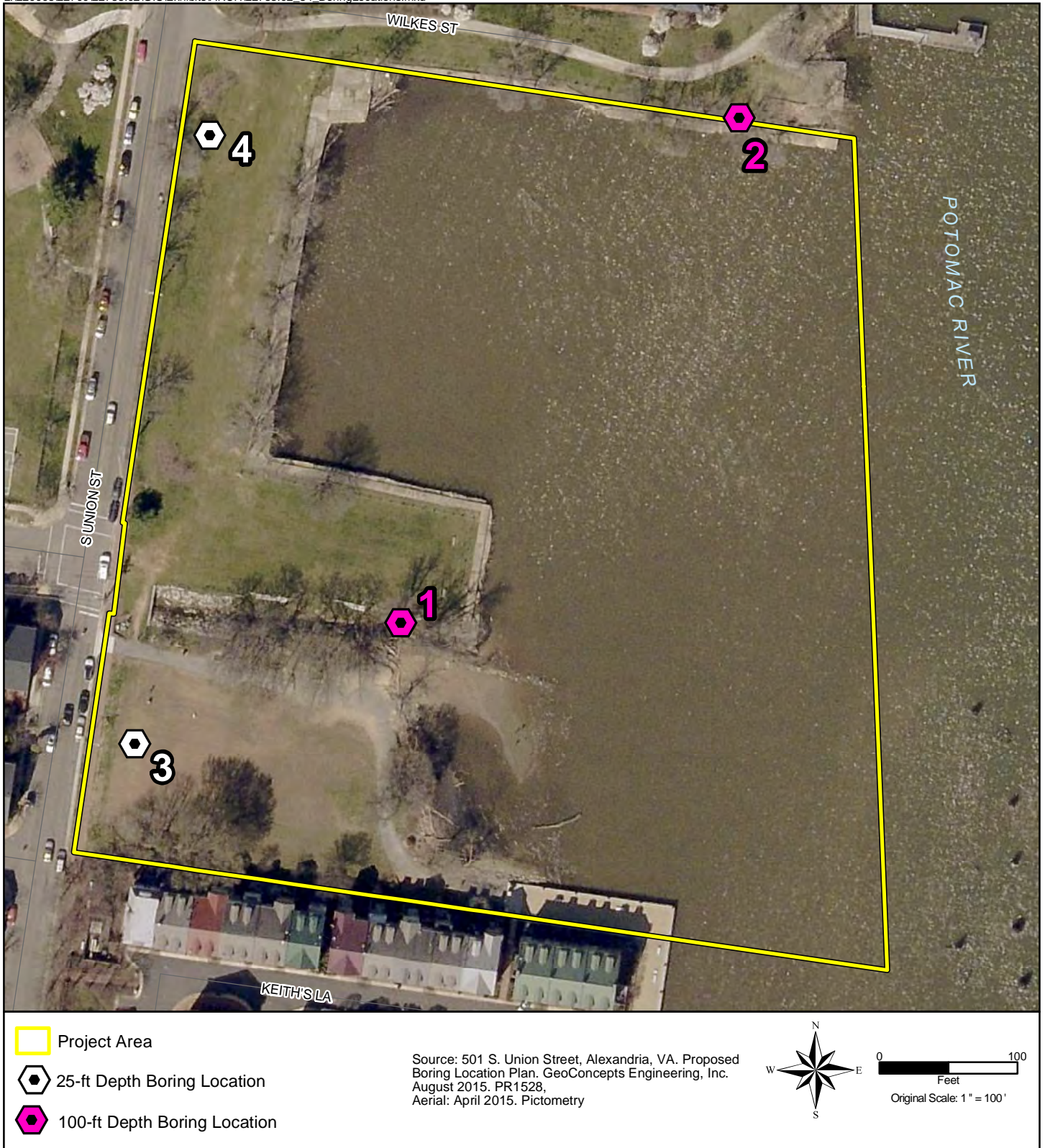


Figure 33
Boring Locations

RESEARCH EXPECTATIONS

Based on the archival research and previous archeological research presented above, the following resources were present or are currently located within the project area; an assessment of their potential archaeological signature is also addressed below.

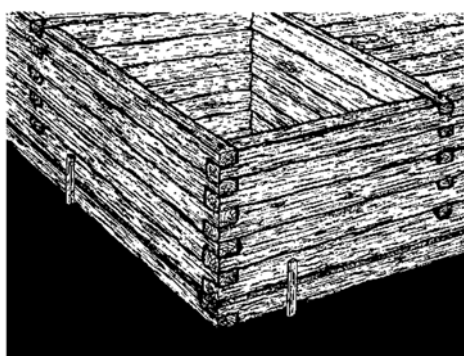
Early to Mid-19th-Century Wharf Construction and Outbanking

A wharf with a curving shoreline had been constructed within the northernmost portion of the study area by 1845 map (see Figure 8). Several techniques were at the disposal of the residents of Alexandria to construct wharves and extend new land out into the river. Four general types of retaining structures used in wharf construction are recognized: grillage¹; cob/crib; bulkhead; and piling (Engineering Science 1993: 97). Based on the archival research and previous archeological investigations in Alexandria, the latter three wharf construction techniques may have been used beneath the study area.

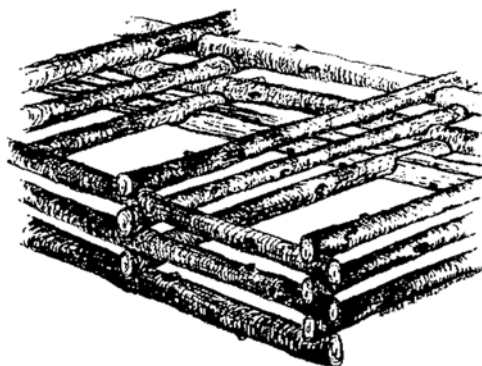
Cob or Crib Wharf Construction

Cob or Crib Wharf Construction consists of stacking timbers to form a square framework that sank to the bottom of the water when filled with stone or soil. The crib technique used tightly packed timbers or planks that were notched in the corners and often pinned with wooden spikes or "trunnels". Cob frameworks were more loosely constructed with gaps and therefore filled with stone (Figure 34).

A wharf measuring 25 feet wide may have been constructed of only one crib. This type of construction may have been used in the early 19th century to extend the land within the study area.



Crib Wharf Structure (Alexandria Archaeology)



Cobb Wharf Structure (Heintzelman-Muego 1983)

**Figure 34: Examples of Crib and Cobb Wharf Construction
(Courtesy of Alexandria Archaeology)**

Bulkhead Construction

¹ Grillage wharfs consisted of rafts of logs layered alternately and weighed with stones - only two wharves of this type have been found in the archeological record (Engineering Science 1993: 97)

Bulkhead Construction consisted of "stacking and interlocking long timbers" to form a three sided structure. The walls were often braced with struts, or back braces, "that attached to the wall and projected back into the wharf fill". Pilings may have been added at a later time to support the bulkhead walls.

Piles Wharves

Piles Wharves are a type of bulkhead wharf that used a pile driver to set logs vertically into the river bottom. Early pile drivers consisted of a heavy weight attached to ropes that would be lifted by teams of workers and dropped on the pile (Shephard 2006:6). This method became more common in the later 19th century with the advent of steam powered pile drivers. The Fish Wharf, which was located at the foot of Oronoco Street, was reconstructed or repaired in 1852 using over 150 piles that ranged in length between 25 and 45 feet (AG 22 July 1852:2). The flooring may have also been constructed of pine or gum wood.

The Young Hero

Based on the archival research, "...a part of the Hulk of the Ship Young Hero" was used in construction of a wharf on the water lot between Wilkes and Gibbon streets" between 1825 and 1845. Also, based on the research, the *Young Hero* was an ocean-going heavy cargo vessel built in 1818 or somewhat earlier. It is anticipated that the hulk of the *Young Hero* lies buried in the northern portion of the project area.

Mid-19th to Mid-20th-Century Development

Smith & Wattle operated their Alexandria Steam Saw-Mills at the foot of Gibbon Street from about 1853 until 1865 when it was destroyed by fire. Within the central western portion of the project area, several buildings, including a barber, a possible ark, three dwellings, and a shed were built in the third quarter of the 19th century. Within the northwestern corner of the project area at 500 S. Union St., a traffic light was installed at Union and Wilkes by order of the City Council and small frame structures were erected by the railroad by 1896. Additionally, throughout the early 20th century, until about 1940, numerous houseboats or arks were typically tied up along the shoreline within the project area, many were likely permanently anchored and built up on pilings. Two frame boat shops, a dwelling, and a boat house were built along the western boundary of the project area during this period. The northern half of 600 S. Union St. was developed much earlier than the southern half, appearing to have a rectilinear bulkhead by 1845. A structure of currently unknown purpose stood on the made land and a second on a wharf by 1864. The banked out land in the southern portion of the project area likely dates to the 1870s, based on cartographic evidence and deed research. A dwelling possibly stood in this area during the late 19th century.

Later 20th-Century Development

Around 1940, Standard Oil overtook the whole east side of the 600 block of Lee St., further banked out 600 S. Union St. and built a large aboveground oil tank within the project area. By the 1950s, the city began to clear the riverfront. In the 1960s, the Old Town Yacht Basin, Inc. opened with a completely transformed landform and bulkhead, leasing the land from the city and other owners on the 500 block of S. Union St. while the Pommander group tried to clean up the 600 block for recreational and real estate development.

Proposed Construction

This Documentary Study was initiated in anticipation of the planned rehabilitation of the Windmill Hill Park Shoreline. The City of Alexandria proposes improvements to the shoreline and drainage within Windmill Hill Park to address the failing existing bulkhead and eroded shoreline; a living shoreline will be established along the shoreline within the project area. Demolition and construction will include construction of a stone sill at the toe of the living shoreline, removal of the existing bulkhead to an elevation 2 feet below the proposed finish grade elevation, regrading and stabilization of the drainage feature construction of a pedestrian path network landward of the bulkhead with the exception of crossing the drainage feature. A pier/overlook (2 piers total) will be constructed in the northeastern and southeastern portions of the project area.

The proposed construction will involve minimal ground disturbance; less than 1 foot of fill will be added to large portions of the project area. Pending review of final grading and construction plans, deep impacts are limited to the removal of the ca. 1960 bulkhead, and the installation of pilings for two piers, a footbridge, and site entrance. It is our understanding that no impacts with a depth greater than 3.6 feet below existing grade are planned.

Summary and Archeological Research Plan

The study area has a high probability of containing 19th – 20th-century archeological features that could potentially provide significant information about the commercial development on the waterfront in Alexandria. It is likely that remnant 19th-century wharves and a portion of the hulk of the early 19th-century sailing ship *Young Hero* are preserved below ground surface at the site. Archeological resources associated with mid- 19th century industrial and commercial use of the site and domestic refuse and cultural features associated with potential 19th and early 20th century dwellings and arks within the project area may also be found.

Because of the possibility of subsurface features within the study area, we recommended that a Phase I archeological investigation of the property be conducted. The scope of said investigation should include the mechanical excavation of archeological test trenches and limited excavation of judgmentally placed shovel test pits (within and without trenches). Testing depth should be limited to the maximum depth of proposed impacts. If potentially significant features or artifact deposits, consultation with Alexandria Archaeology and the Virginia Department of Historic Resources (DHR) should be made regarding significance determination. If this project is subject to review under Section 106 of the National Historic Preservation Act, mitigation of any significant

identified resources can be conducted only under a Resource Management Plan approved by Alexandria Archaeology and a Memorandum of Agreement executed by identified consulting parties.

FIELD AND LABORATORY METHODS

Mechanized Trenching

Six trenches were excavated within the project area in areas pre-designated through consultation with Alexandria Archaeology. The backhoe was equipped with a flat-bladed, smooth bucket and the trenches were excavated slowly enough for the archaeologist to gauge the presence or absence of potential features. The trenches were approximately four feet in width and totaled approximately 115 linear feet. Trench depth did not exceed the depth of the anticipated impacts of the proposed construction, which was approximately 3.6 feet below the current ground surface. All mechanical trenching followed OSHA guidelines to allow for safe hand excavation and evaluation.

At least one soil strata column profile was drawn for every trench. Photographs were taken of the trenches and features. Trenches were back filled after recordation of the soil profiles. No features were fully excavated at this time. Decisions regarding the significance of features and the need for additional testing were made in consultation with Alexandria Archaeology. The horizontal extent of the features discovered within the trenches during this process were drawn and photographed.

The archeological work was designed to:

- Examine the cross-site stratigraphic profile
- Determine the presence/absence of 19th-century wharves and structures within the potential impact zone, including the mid-19th century saw mill that may have operated on the site and the hulk of the ship Young Hero or other features associated with the “banking out” process of land creation along the waterfront
- Determine the presence/absence of structural foundations, features, and artifact scatters associated with the various later 19th-century and early 20th- century buildings that stood on the site including the riverine domestic occupation of the site.

Shovel Testing

Shovel test pits (STPs) were excavated in predetermined areas in between the mechanical trenches and in areas that mechanical stripping would be inappropriate or difficult. STPs measured at least 15 inches (38.1 cm) in diameter and were excavated by natural soil levels. All soils within the test pits were screened through 1/4-inch mesh hardware cloth screens and artifacts were bagged and labeled by unit number and by soil horizon. Soil profiles were made of representative units, with soil descriptions noted in standard soil terminology (A, Ap, B, C, etc.). Soil colors were described using the Munsell Soil Color Chart designations. The location of each shovel test pit was mapped and documented with field notes.

RESULTS OF ARCHEOLOGICAL FIELD INVESTIGATIONS

A formal Scope of Work defining the above recommended archeological work was written and approved by Alexandria Archaeology prior to the commencement of fieldwork (see Appendix I).

The project area is low in relief and includes open grassy lawn, sidewalks, a gravel parking lot and utilities, situated between existing residential buildings located offsite to the north, the Potomac River on the east, South Union Street on the west, and Gibbon Street on the south (Figures 35 and 36). Medium-aged deciduous trees were present along the waterfront and along a short, partially riprapped stream that bisects the project area (Figure 37). Tidal mudflats extend to the east into the river (Figure 38).



Figure 35. Overview of the Project Area, View to the Northeast



Figure 36
Phase I Archeological Testing within the Project Area



Figure 37. Riprapped Stream within the Project Area, View to the Southeast



Figure 38. Mudflats along Potomac River, View to the Southeast

Windmill Hill Park Bulkhead (Resource 100-0121-1523)

One previously unrecorded historic structure was identified within the project area. Recorded as Resource 100-0121-1523, the circa-1960 Windmill Hill Park Bulkhead is located in the central eastern portion of the project area along the Potomac River shore (see Figure 36).

The Windmill Hill Park Bulkhead consists of approximately 450 feet of bulkhead parallel to the Wilkes Street ROW, 400 feet parallel to South Union Street, 170 feet parallel to the Gibbon Street ROW, and 90 feet of bulkhead extending south from there. Wooden piers approximately every five feet support and relieve the concrete retaining wall, which once served as a sidewalk, but has since collapsed and is roped off. (Figures 39 and 40).



Figure 39. Resource 100-0121-1523 (ca. 1960 Bulkhead), View to the Southeast



Figure 40. Resource 100-0121-1523 (ca. 1960 Bulkhead), View to the Northeast

Construction of the concrete bulkhead with wood pilings likely began during the 1950s. By 1960, it was partially complete with about 450 feet of bulkhead parallel to the Wilkes Street ROW, 400 feet parallel to South Union Street, 170 feet parallel to the Gibbon Street ROW, and 90 feet of bulkhead extending south from there. By 1962, it included two piers approximately 450 feet long. The Old Town Yacht Basin, Inc. leased the waterfront land and rented slips.

Historic Sanborn maps of the city reveal that the Windmill Hill Park retained sandy beaches or was submerged where the present-day bulkhead is located up until the 1950s. Earlier bulkheads were much closer to the shore if present at all in the project area. The Windmill Hill Park bulkhead is a late example of a concrete bulkhead in poor condition with what appears to be a relieving platform system, which were in use along the East Coast as early as 1900 (McVarish 2010). As such, in our opinion, the Windmill Hill Park Bulkhead lacks integrity and is not individually eligible for listing on the NRHP. Additionally, it does not contribute to the Alexandria Historic District, as it was built decades after the end of the relevant Period of Significance. The resource form for Resource 100-0121-1523 is included as Appendix III.

Archeological Excavations

Archeological excavations consisted of seven shovel test pits (STPs) and six machine trenches (see Figure 36). No historic or prehistoric cultural material was recovered and no features were identified; 20th-century rubble and refuse was observed in the excavations, but was not collected. Prior to this investigation, several geological bores were conducted with an archeological monitor present. The bores exhibited 6 to 18 feet of various fills throughout the project area, but potential 19th-century or earlier deposits were not noted (Mullen 2015).

Shovel Test Pits

A total of seven shovel tests were excavated within the project area at judgmentally selected locations (see Figure 36). All of the shovel tests exhibited very dense 20th-century fill. All of the shovel tests were discontinued due to compacted gravel and fill prior to reaching 2 feet in depth; the soil profile of STP 5 is representative (Figure 41).

STP 5

Fill 1: 0-4.2 inches below surface – [10YR 3/3] dark brown silty loam

Fill 2: 4.2-9.0 inches below surface – [10YR 4/4] dark yellowish brown sandy loam

Fill 3: 9.0-10.8 inches below surface – [10YR 5/4] yellowish brown sandy clay loam

Fill 4: 10.8-12.0 inches below surface – [10YR 3/2] very dark grayish brown sandy clay loam mixed with gravel

Fill 5: 12.0-13.2 inches below surface – [10YR 5/6] yellowish brown sand mixed with gravel

Terminal depth at 13.2 inches due to compacted gravel.

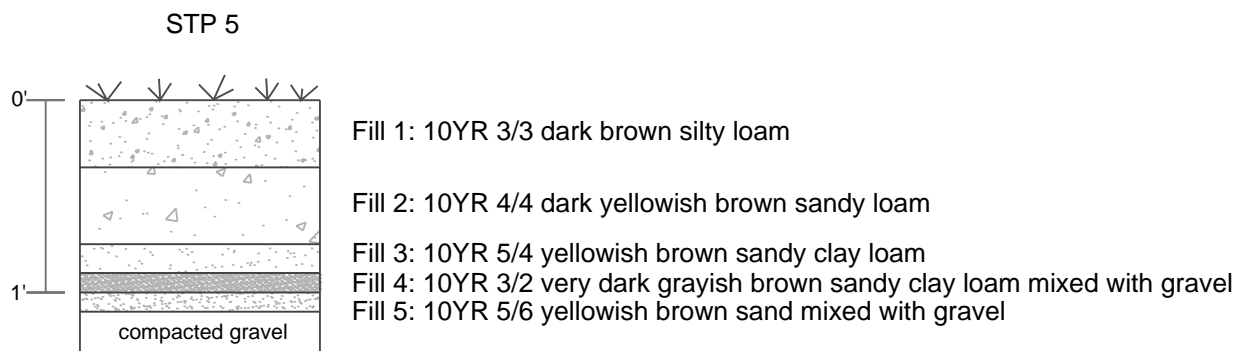
No artifacts were recovered and no prehistoric or historic cultural features were identified in the STPs. Modern refuse including brick, mortar, asphalt, and a variety of modern metal and glass was observed in the fill strata of the STPs, but was not collected.

Mechanized Trenching

A total of six trenches totaling approximately 115 linear feet were placed to investigate the local soil stratigraphy and provide information regarding the potential that archeological deposits and/or prehistoric or historic cultural features might be disturbed during planned park renovations (see Figure 36). The trench locations were acquired through consultation with Alexandria Archaeology in consideration of information included in the documentary study conducted by Thunderbird Archeology.

Trench 1

Trench 1 was excavated on the southern edge of the project area near South Union Street (see Figure 36). Trench 1 was placed to investigate the stratigraphy in the southern portion



0 1
Feet
Original Scale: 1" = 1'

Figure 41
Representative Shovel Test Pit Profile

of the project area, ascertain the presence or absence of intact cultural soil strata, and investigate the potential for deposits associated with a 19th-century sawmill that was possibly present at this location based on documentary research. The trench was approximately 48 feet long and was excavated to a terminal depth of at least 4 feet below ground surface. The trench profile consisted of two very dense modern fill soil strata [Fill 1 and Fill 2] (Figures 42 and Figure 43). A *sondage* was excavated in the bottom of the trench. The *sondage* profile showed similar yellowish brown clay loam mixed with brick [Fill 3]. Excavation terminated at the water table, about 1 foot below the base of the trench (see Figure 43).

Trench 1

Fill 1: 0-24.0 inches below surface – [10YR 5/8] yellowish brown clay loam mottled with [10YR 6/4] light yellowish brown clay loam

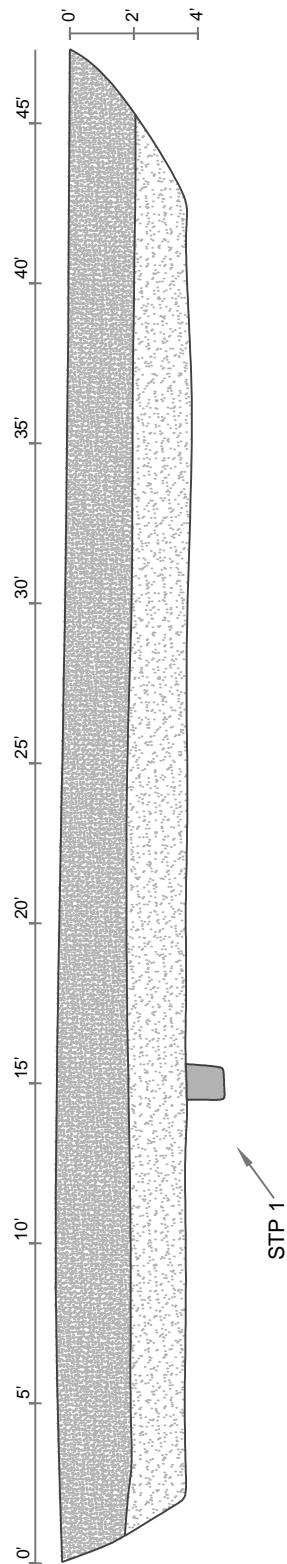
Fill 2 horizon: 24.0-49.0 inches below surface – [10YR 6/8] brownish yellow clay loam mottled with [10YR 5/4] yellowish brown clay loam mixed gravels and cobbles

[*Sondage*] Fill 3: 49.0-58.0 inches below surface – [10YR 4/4] dark yellowish brown clay loam mixed with brick



Figure 42: Trench 1 Northeast Wall Profile

No artifacts were recovered and no prehistoric or historic cultural features were identified in Trench 1. Modern refuse including brick, mortar, asphalt, and a variety of modern metal and glass was observed mixed into the fill strata of the trench, but was not collected.



Fill 1: 10YR 5/8 yellowish brown mottled with 10YR 6/4 light yellowish brown clay loam



Fill 2: 10YR 6/8 brownish yellow mottled with 10YR 5/4 yellowish brown clay loam with mixed gravels and cobbles



Fill 3 (Shovel Test Pit): 10YR 4/4 dark yellowish brown clay loam mixed with brick

6'

6'

Figure 43
Southwest Profile of Trench 1

Trench 2

Trench 2 was excavated 100 feet northeast of Trench 1 and 125 feet west of the Potomac River (see Figure 36). The trench was approximately 35 feet in length and was excavated to a terminal depth of at least 3.6 feet below ground surface. Trench 2 was placed to investigate the stratigraphy in the southern portion of the project area, ascertain the presence or absence of intact soil strata, and investigate the possible location of a 19th-century sawmill and a 19th-century wharf based on archival research. The trench profile consisted of a sand and gravel fill likely associated with construction of the existing path that winds through the dog park [Fill 1], underlain by a very dense clay loam fill that included construction debris; brick, asphalt, stone, and mortar [Fill 2] (Figures 44 and 45).

A *sondage* excavated in the bottom of the trench, not shown in the profile illustrations, contained similar fill material and was discontinued at the water table, about 1 foot below the base of the trench or about 4.6 feet below ground surface.

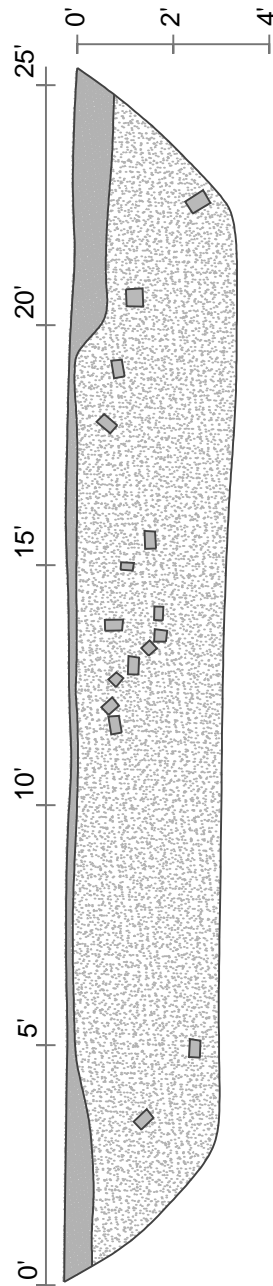
Trench 2

Fill 1: 0-6.0 inches below surface – [10YR 5/2] grayish brown sand mixed with pea gravel.

Fill 2: 6.0-42.0 inches below surface – [10YR 5/6] yellowish brown clay loam mottled with [10YR 5/3] brown clay loam mixed with brick, asphalt, stone, and mortar.



Figure 44: Trench 2 Southwest Wall Profile



Fill 1: 10YR 5/2 grayish brown sand mixed with pea gravel

Fill 2: 10YR 5/6 yellowish brown mottled with 10YR 5/3 brown clay loam mixed with brick, asphalt, stone, and mortar

Bricks

Figure 45
Southwest Profile of Trench 2

As noted above, pockets of brick and mortar fragments were present throughout the Fill 2 strata but these were not *in situ*. No artifacts were recovered and no prehistoric or historic cultural features were identified in Trench 2. Modern rubble and refuse dating to the 20th century, including various fragments of glass and unidentified fragments of iron, was observed mixed into the fill strata of the trench, but was not collected.

Trench 3

Trench 3 was excavated approximately 125 feet north of Trench 1 on the north side of the small stream that bisects the project area (see Figure 36). Trench 3 measured approximately 30 feet long and was excavated to the terminal depth of at least 3.6 feet below ground surface. A concrete and loose gravel pad, likely associated with a no longer extant marina parking lot, was exposed in the central portion of the trench (Figure 46). The backhoe was unable to dig through the pad. Trench 3 was extended slightly from its original size in order to properly assess the soil matrix associated with the pad. The fill at the base of the trench was highly compacted, no *sondage* could be excavated at the base of the trench.

Six fill strata were recorded in the trench (Figures 47 and 48).

Trench 3

- Fill 1: 0-12.0 inches below surface – [10YR 3/4] dark yellowish brown silty loam
- Fill 2: 12.0-18.0 inches below surface – [10YR 6/6] brownish yellow sandy loam mixed with 75% gravel
- Fill 3: 18.0-21.0 inches below surface – [10YR 2/1] asphalt
- Fill 4: 21.0-29.0 inches below surface – [7.5YR 5/8] strong brown sandy loam
- Fill 5: 29.0-36.0 inches below surface – [10YR 3/3] dark brown compacted sandy loam
- Fill 6: 36.0-46.0 inches below surface – [10YR 3/2] very dark grayish brown sandy clay loam mixed with brick fragments.

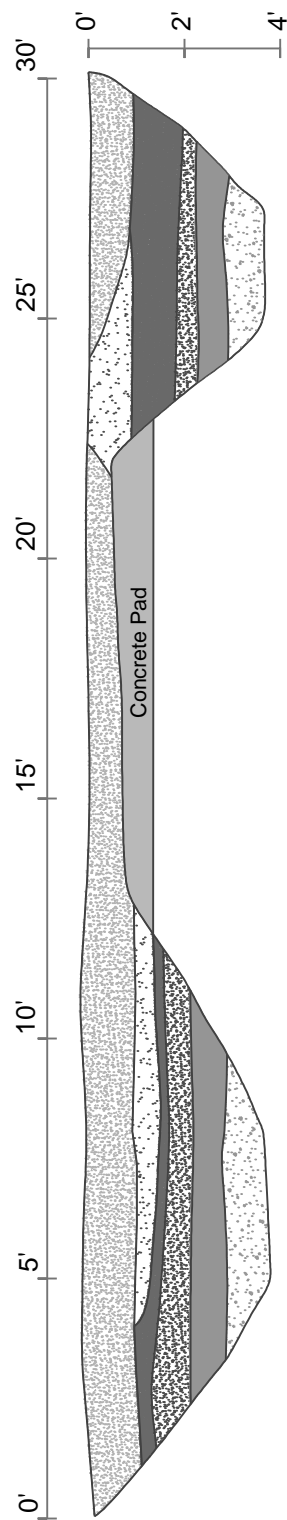
No artifacts were recovered and no prehistoric or historic cultural features, other than the late historic or modern concrete pad detailed above, were identified in Trench 3. Similar to Trench 2, modern refuse including brick rubble, mortar, asphalt, and a variety of modern metal and glass was observed mixed into the fill strata of Trench 3, but was not collected.



Figure 46: Concrete Pad Exposed in Trench 3, View to West



Figure 47: Trench 3 Southwest Wall Profile



Fill 1: 10 YR 3/4 dark yellowish brown silty loam

Fill 2: 10YR 6/6 brownish yellow sandy loam with 75% gravel

Fill 3: 10YR 2/1 loose asphalt

Fill 4: 7.5YR 5/8 strong brown sandy loam

Fill 5: 10YR 3/3 dark brown compact sandy loam

Fill 6: 10YR 3/2 very dark grayish brown sandy clay mixed with brick fragments

Figure 48
Southwest Profile of Trench 3

Trench 4

Trench 4 was excavated in the north central portion of the project area; 185 feet north of Trench 3 and 30 feet east of S. Union Street (see Figure 36). The trench measured approximately 75 feet long and was excavated to the terminal depth of at least 4.5 feet below surface. Trench 4 was placed to investigate the stratigraphy in the central portion of the project area, ascertain the presence or absence of intact historic or prehistoric deposits, and investigate the possible location of the 19th-century hulk of the *Young Hero*. Due to the possible presence of the hulk, the trench was excavated over a foot below the planned maximum depth of impacts for the project. The trench profile consisted of two strata of very dense clay loam fill soil mixed with construction debris including brick, stone, mortar, and wood fragments [Fill 1 and Fill 2], underlain by a clay fill containing brick, stone, and some mortar [Fill 3] (Figure 49 and Figure 50).

Trench 4

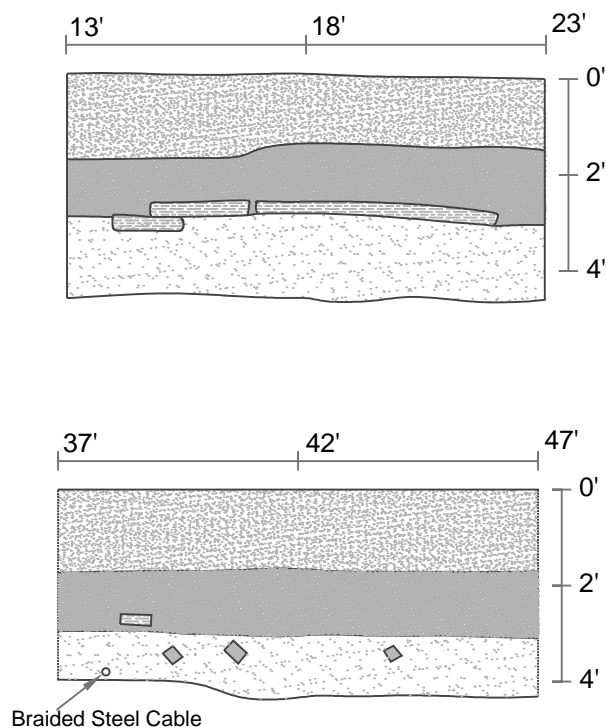
Fill 1: 0-22.8 inches below surface – [10YR 6/6] brownish yellow compact clay loam mixed with asphalt, brick, and gravel.

Fill 2: 22.8-36.0 inches below surface – [10YR 4/4] dark yellowish brown compact clay loam mixed with coal slag, asphalt, and wood fragments.

Fill 3 horizon: 36.0-57.6 inches below surface – [10 YR 4/1] dark gray clay loam with brick fragments



Figure 49: Trench 4 East Wall Profile



Fill 1: 10YR 6/6 brownish yellow compact clay loam mixed with asphalt, brick, and gravel



Fill 2: 10YR 4/4 dark yellowish brown compact clay loam mixed with coal slag, asphalt, and wood fragments



Fill 3: 10 YR 4/1 dark gray clay loam with brick fragments



Wood

Figure 50
South Profiles of Trench 4

A large, braided steel cable was found in the east wall of Trench 4 within the Fill 3 strata, suggesting that all of the Fill strata dated to the 20th century. Two *sondages* were excavated in the base of Trench 4, both encountered the water table about one foot below the base of the trench excavation. No artifacts were recovered and no prehistoric or historic cultural features were identified in Trench 4. Modern refuse, including brick rubble, mortar, asphalt, screw top liquor bottle fragments, and fragments of aluminum and steel, was observed mixed into the fill strata of the trench, but was not collected.

Trench 5

Trench 5 was excavated 50 feet west of Trench 4 near the Windmill Hill Park Bulkhead and the Potomac River (see Figure 36). The trench was approximately 48 feet long and was excavated to the terminal depth of at least 4.5 feet below surface. Trench 5 was placed to investigate the soil stratigraphy in the central portion of the project area, ascertain the presence or absence of intact historic or prehistoric deposits, and further investigate the possible location of the 19th-century hulk of the *Young Hero*.

Due to the possible presence of the hulk, the trench was excavated over a foot below the planned maximum depth of impacts for the project. The trench profile consisted of four Fill strata; each included extremely dense and compact soil mixed with various modern or late historic construction debris such as brick, stone, and mortar (Figures 51 and 52). The dense soil was very difficult to cut through with the backhoe and no manual excavations were conducted in the base of Trench 5 due to the dense and compact fill.

Trench 5

Fill 1 horizon: 0-4.8 inches below surface – [10YR 4/2] dark grayish brown loam
with 90% gravel

Fill 2 horizon: 4.8-13.2 inches below surface – [10YR 5/4] yellowish brown silty loam
mottled with 10YR 4/2 dark yellowish brown loam mixed with brick and mortar chunks

Fill 3 horizon: 13.2-24.0 inches below surface – [10 YR 3/2] very dark grayish brown silty
loam with brick, charcoal, and mortar chunks

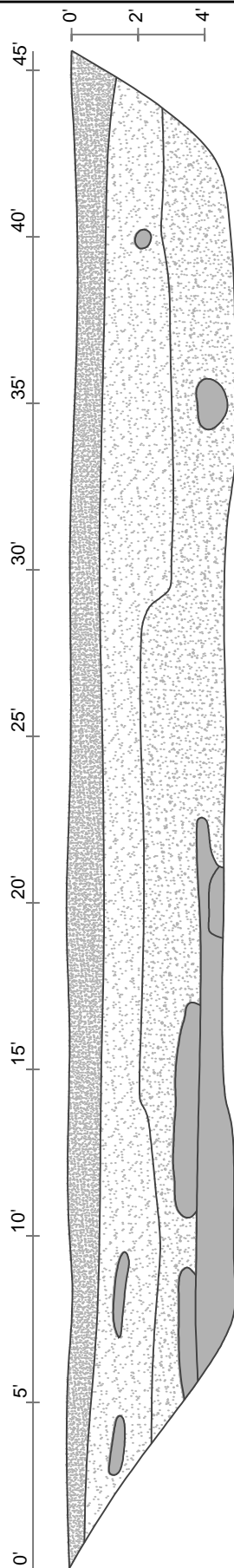
Fill 4 horizon: 24.0-26.2 inches below surface – [2.5 YR 5/8] red brick stained soil with large
disarticulated bricks

Fill 5 horizon: 26.2-33.4 inches below surface – [10 YR 6/8] brownish yellow silty clay
mixed with brick pieces



Figure 51: Trench 5 West Wall Profile

No artifacts were recovered and no prehistoric or historic cultural features were identified in Trench 5. Modern refuse, including brick rubble, mortar, asphalt, screw top liquor bottle fragments, and fragments of aluminum and steel, was observed mixed into the fill strata of Trench 5, but was not collected.



Fill 1: 10YR 4/2 dark grayish brown loam with 90% gravel

Fill 2: 10YR 5/4 yellowish brown mottled with 10YR 4/2 dark yellowish brown silty loam mixed with brick and mortar chunks

Fill 3: 10YR 3/2 very dark grayish brown silty loam mixed with brick, charcoal and mortar chunks

Fill 4: 2.5 YR 5/8 red brick stained soil with large disarticulated bricks

Fill 5: 10YR 6/8 brownish yellow silty clay mixed with brick pieces

Figure 52
West Wall Profile of Trench 5

Trench 6

Trench 6 was excavated 275 feet east of S. Union Street in the northeast corner of the project area between the footpath and the Potomac River (see Figure 36). The trench was approximately 25 feet long and was excavated to a terminal depth of at least 1.5 feet below surface. Trench 6 was placed to investigate the stratigraphy in the northern portion of the project area, ascertain the presence or absence of intact historic or prehistoric deposits, and investigate the mapped location of late 19th-century rail lines.

The trench was discontinued due to the presence of an impenetrable concrete pad and utility line connecting the street posts. The trench profile consisted of one Fill stratum of very dense soil (Figure 53). No additional shovel testing was conducted in the base of Trench 6 due to the concrete.



Figure 53: Trench 6 East Wall Profile

No artifacts were recovered and no prehistoric or historic cultural features were identified in Trench 6. Various modern construction debris, including brick, stone, and mortar, were observed in the fill strata of Trench 6, but was not collected.

SUMMARY AND RECOMMENDATIONS

A Phase I Archaeological Investigation was conducted at Windmill Hill Park within the City of Alexandria, Virginia. Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted the investigation for the City of Alexandria, Virginia. The study was initiated in anticipation of planned park improvements of the study area and the concern that significant archeological resources may be impacted by construction. A documentary study and archaeological evaluation were required under the City of Alexandria Archaeological Protection Code. The archeological investigation followed a Scope of Work approved by Alexandria Archaeology.

The documentary study indicated that the site had a high probability of containing 19th – 20th - century archeological features that could potentially provide significant information about the commercial development on the waterfront in Alexandria. Based on the research, it is likely that remnant 19th-century wharves and a portion of the hulk of the early 19th-century sailing ship Young Hero are preserved below ground surface at the site. Archeological resources associated with mid-19th-century industrial and commercial use of the site and domestic refuse and cultural features associated with later 19th- and early 20th-century domestic use of the site may also be present.

The Phase I archeological investigation included mechanized trench excavation and limited shovel testing within the site at locations determined through consultation with Alexandria Archaeology. The vertical extent of the excavations was generally limited to the depths of proposed impacts (approximately 3.6 feet below ground surface) and the excavations showed modern (mid- to late) 20th-century fill across the Park at these depths. No artifacts were recovered and no prehistoric or historic archeological features or living surfaces were identified; 20th-century rubble and refuse, including brick, mortar, asphalt, various fragments of glass, and unidentifiable iron fragments, was observed in all the excavations within the project area, but was not collected.

One architectural resource was recorded. Resource 100-0121-1523 represents the Windmill Hill Park Bulkhead, a concrete bulkhead with wood pilings likely constructed in the late 1950s and completed by 1960. The Windmill Hill Park bulkhead is a late example of a concrete bulkhead in poor condition with what appears to be a relieving platform system, which were in use along the East Coast as early as 1900. As such, in our opinion, the Windmill Hill Park Bulkhead lacks integrity and is not individually eligible for listing on the NRHP. Additionally, it does not contribute to the Alexandria Historic District, as it was built decades after the end of the relevant Period of Significance.

No further work is recommended for impacts limited to the vertical extents of the current archeological testing, which was approximately 3.6 feet below the current ground surface. However, there is still the potential that the project area may contain significant archeological resources at a greater depth than was excavated during the current investigation; documentary evidence indicates that there is a high probability that remnant 19th-century wharves and a portion of the hulk of the early 19th-century sailing ship Young Hero could be preserved within the project area. Therefore, any adverse effects beneath the depths investigated during the current investigation would require additional archeological investigation.

REFERENCES CITED

Adovasio, J.M., J. Donahue, and R. Stuckenrath

1990 The Meadowcroft Rockshelter Radiocarbon Chronology 1975-1990. *American Antiquity* (55):348-54.

Adovasio, J.M., D. Pedler, J. Donahue, and R. Stuckenrath

1998 Two Decades of Debate on Meadowcroft Rockshelter. *North American Archaeologist* (19):317-41.

Alexandria Advertiser (AA) [Alexandria, Virginia]

1803 "Advertisement" 18 May:1.

Alexandria Deed Books (DB) 1795-Present

Alexandria Gazette (AG) [Alexandria, Virginia]

1790 "Advertisement" 23 September.

1811 "Advertisement" 4 May: 3.

1812 "Advertisement" 23 March: 1.

1813 "Advertisement" 19 May: 4.

1817 "Advertisement" 1 August: 1.

1817 "Shipping News" 24 November: 3.

1818 "Advertisement" 19 September: 3.

1818 "Advertisement" 6 November: 3.

1818 "Advertisement" 10 December: 3.

1819 "Advertisement" 16 July: 3.

1819 "Advertisement" 10 November: 3.

1820 "Advertisement" 21 June: 3.

1823 "Advertisement" 26 July: 3.

1827 "Advertisement" 1 March: 3.

1833 "Advertisement" 25 May: 3.

1835 "Advertisement" 15 April: 3.

1837 "Advertisement" 23 November: 3.

1851 "Advertisement" 7 May: 3.

1858 "Advertisement" 15 January: 3.

1864 "Sales Under the U.S. Direct Tax Law" 30 January: 2.

1874 "Tax Sales" 16 June: 3.

1874 "Tax Sales" 22 August: 4.

Barse, William P.

1978 Preliminary Notes on the West Shore Site, 18AN219. *Archeological Society of Maryland Newsletter*, January 1978.

1990 A Trial Formulation of Vessel Shapes for the Early and Middle Woodland Ceramic Assemblages. Paper presented at the 21st Middle Atlantic Archeological Conference, Ocean City, Maryland.

- 1991 *Phase III Data Recovery Excavations at 28GL209, Gloucester County, New Jersey*. Report prepared for Transcontinental Gas Pipeline Corporation by Louis Berger & Associates.
- 1994 *Phase III Data Recovery Excavations at the Clifton Site (18CH358), Maryland Route 228 Wetland Mitigation, Charles County, Maryland*. Maryland State Highway Administration, Project Planning Division, Archeological Report Number 86.
- 2002 *An Archeological Survey, Inventory and Evaluation Study, and Data Recovery for the Fletchers Boathouse Site (51NW13) C&O Canal National Historical Park, Washington, D.C.* Report submitted to the National Capital Region, National Park Service.

Bergman, Christopher A., John F. Doershuk and Joseph Schuldenrein

- 1994 A Young Archaeologist's Summary Guide to the Deeply Stratified Sandts Eddy Site, Northampton County, Pennsylvania. In Recent Research into the Prehistory of the Delaware Valley, edited by Christopher A. Bergman and John F. Doershuk, *Journal of Middle Atlantic Archeology*, Volume 10.

Bowman, John S. [editor]

- 1985 *The Civil War Almanac*. World Almanac Publications, New York, New York.

Broyles, Bettye J.

- 1971 *Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia*. West Virginia Geological Survey, Report of Investigations 3.

Brown, Lois

- 1979 Fluted Points in Maryland. Unpublished, on file at the Maryland Geological Survey, Division of Archeology.

Carbone, Victor A.

- 1976 Environment and Prehistory in the Shenandoah Valley. Unpublished Ph.D. Dissertation, Catholic University of America, Washington, D.C.

Chapman, Jefferson

- 1975 *The Rose Island Site and the Bifurcate Point Tradition*. Knoxville, University of Tennessee, Department of Anthropology.

Coe, Joffre L.

- 1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society* 54 (5), Philadelphia.

Cross, Dorothy

- 1956 *Archeology of New Jersey, Volume 2: The Abbot Farm*. Trenton: Archeological Society of New Jersey and the New Jersey State Museum.

Curry, Dennis and Maureen Kavanagh

- 1994 A New Radiocarbon Date for Popes Creek Ware. *Maryland Archeology* 30(1):29-32.

Darmody, R.G. and J.E. Foss

1978 *Tidal Marsh Soils of Maryland*. Maryland Agricultural Experimental Station
Publication 930:1-69.

Dent, Richard J.

1991 Deep Time in the Potomac Valley – Thoughts on Paleoindian lifeways and
revisionist archeology. *Archeology of Eastern North America* 19:23-41.

1995 *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum Press, New York.

Department of Historic Resources (DHR)

2011 *Guidelines for Conducting Historic Resources Survey in Virginia*. Virginia State
Department of Historic Resources, Richmond, Virginia.

Dincauze, Dena

1976 *The Neville Site: 8,000 Years at Amoskeag, Manchester, New Hampshire*. Peabody
Museum Monographs Number 4, Cambridge, Massachusetts.

Egloff, Keith and Deborah Woodward

1992 *First People. The Early Indians of Virginia*. University of Virginia Press, Charlottesville,
Virginia.

Engineering-Science, Inc.

1993 Maritime Archaeology at Keith's Warf and Battery Cove (44AX119), Ford's Landing,
Alexandria, Virginia. Prepared for Cook Inlet Region of Virginia by Engineering-Science,
Inc. , Washington, D.C.

The Evening Star (ES) [Washington, D.C.]

1882 "No title."

1891 "Shipyards." 14 Jan: 5.

Fiedel, Stuart J.

1999 Connecting Late Prehistoric Ceramic Lineages with Early Historic Ethnic-
Linguistic Groups: Prospects and Problems. Paper presented at the Middle
Atlantic Archeological Conference, Harrisburg, Pennsylvania.

Gardner, William M.

1974 *The Flint Run Paleo Indian Complex: Report on the 1971-1973 Seasons*. Occasional
Publication 1, Department of Anthropology, Catholic University of America,
Washington, D.C.

1976 *Excavations at 18PR141, 18PR142 and 18PR143 Near Piscataway, Maryland*. Report
submitted to the Washington Suburban Sanitary Commission.

1980 The Archaic. Paper presented at the 11th Middle Atlantic Archeological Conference,
Rehoboth Beach, Delaware.

- 1982 Early and Middle Woodland in the Middle Atlantic: An Overview. In *Practicing Environmental Archeology: Methods and Interpretations*, pp. 53-86, Roger W. Moeller, editor. Occasional Paper Number 3, American Indian Archeological Institute, Washington, Connecticut.
- 1985 Prehistoric Site Distribution in the Greater Washington, D.C. Area. Paper presented at the Annual Meeting of the American Anthropological Society, Washington, D.C.
- 1987 Comparison of Ridge and Valley, Blue Ridge, Piedmont, and Coastal Plain Archaic Period Site Distribution: An Idealized Transect. In *Journal of Middle Atlantic Archeology*, Vol. 3, pp. 49-80, Roger W. Moeller, editor. Archeological Services, Bethlehem, Connecticut.
- 1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (circa 9200-6800 B.C.) In *Paleoindian Research in Virginia: A Synthesis*, pp. 5-51, J. Mark Wittkofski and T.R. Rhinehart, editors. Archeological Society of Virginia Special Publication No. 19. The Dietz Press, Richmond.
- 1991 Notes for the Territory Presentation. Presented at the 1991 Middle Atlantic Archeological Conference.

Gardner, William M. and Charles W. McNett, Jr.

- 1971 Early Pottery in the Potomac. *Proceedings of the Second Middle Atlantic Archeological Conference*. Washington, D.C.

Gardner, William M. and Lauralee Rappleye

- 1979 *A Cultural Resources Reconnaissance and Impact Area Assessment of the Great Dismal Swamp Wildlife Refuge, Chesapeake and Nansemond Counties, Virginia*. Report prepared for the U.S. Department of the Interior, Interagency Archeological Services, Atlanta, Georgia.

Gardner, William M. and Joan M. Walker

- 1993 *A Phase I Cultural Resources Reconnaissance of the Proposed Mitchell Substation and Mitchell Transmission Line in Culpeper County, Virginia*. Report prepared for Rappahannock Electric Cooperative, Fredericksburg, by the Thunderbird Archeological Associates, Inc., Woodstock, Virginia.

Goodyear, A.C

- 2005 "Evidence of Pre-Clovis Sites in the Eastern United States." *Paleoamerican Origins: Beyond Clovis*. R. Bonnicksen, B. Lepper, D. Stanford, M. Waters (eds.) pp. 103-112. Texas A&M University Press, College Station, Texas.

Hantman, Jeffrey L. and Michael J. Klein

- 1992 Middle and Late Woodland Archeology in Piedmont Virginia. In *Middle and Late Woodland Research in Virginia: A Synthesis*, pp. 137-164, Theodore R. Reinhart and Mary Ellen N. Hodges, editors. Archeological Society of Virginia Special Publication No. 29. The Dietz Press, Richmond, Virginia.

Haynes, Gary

2002 *The Early Settlement of North America: the Clovis Era*. Cambridge University Press, New York, New York.

Heintzelman-Muego, Andrea

1983 *Construction Materials and Design of 19th Century and Earlier Wharves: An Urban Archaeological Concern*. Paper presented at the Society for Historical Archaeology Conference, January 6-9. Manuscript on file at Alexandria Archaeology.

Jirikowic, Christine

1999 Keyser Ware Ceramics at the Hughs Site and in the Potomac Basin. Paper presented at the Middle Atlantic Archeological Conference, Harrisburg, Pennsylvania.

Johnson, Michael

1983 The Evolution of the Bifurcate Hunting System in the Interior Piedmont of Fairfax County, Virginia. In *Piedmont Archeology*, pp. 55-73, J. Mark Wittkofski and Lyle E. Browning, editors. Archeological Society of Virginia Special Publication No. 10. Richmond, Virginia.

1986 *Fairfax County Archeological Overview*. Heritage Resources Branch, Fairfax, Virginia.

1997 Additional Research at Cactus Hill: Preliminary Description of Northern Virginia Chapter—ASV's 1993 and 1995 Excavations. In *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*, edited by J.M. McAvoy and L.D. McAvoy, Appendix G. Virginia Department of Historic Resources, Research Report Series No. 8, Richmond, Virginia.

Kavanagh, Maureen

1982 Archaeological Resources of the Monocacy River Region. Maryland Geological Survey, Division of Archaeology, File Report #164.

1983 Prehistoric Occupation of the Monocacy River Region, Maryland. In *Piedmont Archeology*, pp. 40-54, J. Mark Wittkofski and Lyle E. Browning, editors. Archeological Society of Virginia Special Publication No. 10. Richmond, Virginia.

Kinsey, W.F. III

1972 *Archeology in the Upper Delaware Valley*. Harrisburg, Pennsylvania Museum and Historical Commission, Anthropological Series 2.

Knepper, Denise A. and Kimberly Prothro

1989 Historical and Archaeological Investigation of Roberdeau's Wharf at Harborside, Alexandria, Virginia. Prepared for 400 South Union Street Joint Venture by Engineering-Science, Inc., Washington, D.C.

Luckenbach, Al, Jessie Grow, Shawn Sharpe

2010 Archaic Period Triangular Points From Pig Point, Anne Arundel County, Maryland. In *Journal of Middle Atlantic Archeology*, Volume 26, pp. 1-15, Roger W. Moeller, editor. Archeological Services, Bethlehem, Connecticut.

Manson, Carl

1948 Marcey Creek Site: An Early Manifestation in the Potomac Valley. *American Antiquity* 12(3):223-227.

Maryland Archaeological Conservation Lab (MAC Lab)

2012 *Archaic Triangular Points*, Electronic Document, http://www.jefpat.org/diagnostic/Maryland_Projectile_Points/FindingAidsandImagePages/FindingAids/ArchaicTriangularPoints.html, accessed January 7, 2015.

McAvoy, J.M.

1997 Addendum: Excavation of the Cactus Hill Site, 44SX202, Areas A-B, Spring 1996: Summary Report of Activities and Findings. In *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*, edited by J.M. McAvoy and L.D. McAvoy, Appendix G. Virginia Department of Historic Resources, Research Report Series No. 8, Richmond, Virginia.

McAvoy, J.M. and L.D. McAvoy (editors)

1997 *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*. Virginia Department of Historic Resources, Research Report Series No. 8, Richmond, Virginia.

McClearen, Douglas C.

1991 *Phase III Archeological Investigations of the "522 Bridge Site" (44WR329) Warren County, Virginia*. Virginia Commonwealth University, Archeological Research Center, Richmond, Virginia.

McDonald, J.N.

2000 *An Outline of the Pre-Clovis Archaeology of SV-2, Saltville, Virginia, with Special Attention to a Bone Tool Dated 14,510 yr BP*. Virginia Museum of Natural History, Martinsville, Virginia.

McDonald, J.N. and M. Kay

1999 Pre-Clovis Archaeology at SV-2, Saltville, Virginia. In *Abstracts of the Society for American Archaeology 64th Annual Meeting*, p. 196. Society for American Archaeology, Washington, DC.

McNett, Charles W., and William M. Gardner

1975 *Archeology in the Lower and Middle Potomac Valley*. Unpublished manuscript in possession of the author.

McVarish, Douglass

- 2010 *Gowanus Canal Preliminary Bulkhead Study, Brooklyn, Kings County, New York*. Report prepared for HDR, Inc. of New York, New York and United States Environmental Protection Agency Region 2 Division of Environmental Planning and Protection of New York, New York by John Milner Associates, Inc. of West Chester, Pennsylvania 19380 in association with Dolan Research, Inc. of Newtown Square, Pennsylvania.

Miller, T. Michael

- 1987 *Pen Portraits of Alexandria, Virginia, 1739-1900*. Heritage Books, Bowie, Maryland.
1991 *Artisans and merchants of Alexandria, Virginia, 1780-1820*. Heritage Books, Bowie, Maryland.
1995 *Portrait of a Town: Alexandria, District of Columbia (Virginia), 1820-1830*. Heritage Books, Bowie, Maryland.

Miller, Glenda F. and Joan M. Walker

- n.d. Competing Agendas: The Fur Trade and Native Americans.

Mouer, Daniel, Robin L. Ryder and Elizabeth G. Johnson

- 1981 The Elk Island Tradition: An Early Woodland Society in the Virginia Piedmont. *Quarterly Bulletin of the Archeological Society of Virginia* 36:49-76.

Mounier, Alan and Jack Cresson

- 1988 A Case of Lachrymose Archeology in Southern New Jersey. *Archeological Society of New Jersey Newsletter* 146:5-8.

Potter, Stephen R.

- 1982 An Analysis of Chicacoan Settlement Patterns. Dissertation on file, Department of Anthropology, University of North Carolina, Chapel Hill.
1993 *Commoners, Tribute and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. University Press of Virginia, Charlottesville.

Pulliam, Ted

- 2011 *Historic Alexandria: An Illustrated History*. Historic Publishing Network, San Antonio, Texas.
2006 *Point Lumley: It's Location, Appearance, and Structures 1749-1809*. Manuscript on file with Alexandria Archaeology.
2007 Gunpowder, Flour, Fire and Heirs: A Waterfront Block from Duke to Wolfe Streets. In *The Alexandria Chronicle*, Fall 2007. Alexandria Historical Society, Alexandria, Virginia.
n.d. *Possible Early Use of Point Lumley Warehouse*. Alexandria Archaeology vertical files

Ring, Constance K and Wesley E. Pippenger

2008 *Alexandria, Virginia Town Lots, 1749-1801, Together With Proceedings of the Board of Trustees, 1749-1780*. 1996. Heritage Books. Westminster, Md.

Shephard, Steven J.

1988a *Alexandria Common Council Minutes 1817-1830, Volume 1 1817-1823, Including a Chart of Salaries of Alexandria City Officials as Recorded in the Acts in Council, 1813-1852*. Alexandria Archaeology Publication Number 10. Alexandria Archaeology and Office of Historic Alexandria, Alexandria, Virginia.

1988b *Alexandria Common Council Minutes 1817-1830, Volume 2 1824-1830, Including a Chart of Salaries of Alexandria City Officials as Recorded in the Acts in Council, 1813-1852*. Alexandria Archaeology Publication Number 10. Alexandria Archaeology and Office of Historic Alexandria, Alexandria, Virginia.

2006 Reaching for the Channel: Some Documentary and Archaeological Evidence of Extending Alexandria's Waterfront. *The Alexandria Chronicle*, Spring 2006. Alexandria Historical Society, Alexandria, Virginia.

Shomette, Donald G.

1985 *Maritime Alexandria: An evaluation of submerged cultural resource potentials at Alexandria, Virginia*. City of Alexandria. Alexandria, Virginia.

Smith, William F. and T. Michael Miller

1989 *A Seaport Saga: A Portrait of Old Alexandria, Virginia*. Donning Company, Norfolk, Virginia.

Tilp, Frederick

1978 *This Was Potomac River*. Wonder Book, Frederick, Maryland.

APPENDIX I

Work Plans and Permits

Scope of Work for a Documentary Study and Public Summary

December 9, 2015

This scope of work is for a Documentary Study for the properties located at 500 and 600 South Union Street in Alexandria, Virginia. The goals of the research are to understand the land use history of the project area, to develop a historical context for the interpretation of the site, and to identify the potential locations of archaeological resources that may be preserved. Ultimately, the research will result in a recommendation as to whether an archeological investigation is needed on the property prior to development. In addition, the consultant shall work with the city parks department, architect, and landscape architect to potentially integrate themes and elements of the historic character of the property into the design of open space/landscape for the project.

Alexandria's waterfront represented the heart of the city's economic activity from the time of its founding until after the turn of the 20th century. This property occupies an area south of Lumley Point, a promontory that, with West's Point to the north, formed the two ends of the original crescent bay that characterized Alexandria's waterfront before the eastward expansion of the shore line that began in the late 18th century. Point Lumley was utilized as a large-vessel mooring point due to its proximity to the deep Potomac River channel and was a site for shipbuilding activity. During the 18th century, the shoreline north and south of this point was west of South Union Street and the project area located in the river. By 1845, the shoreline was altered to create a curvy bank on the northern half of the project area and a more rectilinear bank on the southern half where docks likely stood. During the Civil War, the project area served as railroad transfer wharves and contained one structure in the southwest corner. A small spur called the Marine Railway terminated in the northeast corner of the project area. In the late 19th century, the shoreline was banked out further, and while one structure was removed in the southwest, another was built in the northwest corner, indicating that these were small frame ephemeral structures. During the early 20th century, a series of frame structures related to boating were erected and removed and by the 1950s, the shoreline was made rectilinear with docks for the Old Town Yacht Club. Only an oil tank stood in the southwest corner at this time in association with the U.S. Naval Reserve. In 1945, Windmill Hill Park was established to the west.

This work is being done to satisfy requirements of the City of Alexandria Archaeological Protection Code prior to development on the property. All aspects of this investigation will comply with the *City of Alexandria Archaeological Standards* dated January 1996 and the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*.

Documentary Study and Recommendations

The Documentary Study will consist of maps, plus primary and secondary source information. The ultimate goal of the research is to identify, as precisely as possible, the potential locations of archeological resources that may be preserved within the project area and to develop a historical context for the interpretation of these potential resources.

The archival research shall include, but is not limited to, a search of deeds, plats, title documents, probate and other court records; tax and census records; business directories; published and unpublished manuscripts of first-hand accounts (such as letters, diaries, and county histories); historical maps; newspaper articles; previous archeological research; pedological, geological and

topographic maps; modern maps, previous construction plans and photographs that can indicate locations of previous ground disturbance; and information on file with Alexandria Archaeology and the local history sections of public libraries in northern Virginia.

The archival research shall result in an account of the chain of title, a description of the owners and occupants, and a discussion of the land-use history of the property through time. It will include the development of research questions that could provide a framework for the archeological work and the development of historic contexts for the interpretation of the site. The work will present the potential for the archeological work to increase our understanding of Alexandria's past and will highlight the historical and archeological significance of the property.

In addition to the narrative, the work shall include the production of a map or series of overlay maps that will indicate the impact of the proposed construction activities on all known cultural and natural features on the property. The scale of the overlay map(s) will be large (such as 1 inch to 100 feet). The map(s) will depict the locations of features discovered as a result of the background documentary study (including, but not limited to, historic structures, historic topography, and water systems), the locations of any known previous disturbances to the site (including, but not limited to, changes in topography, grading and filling, previous construction activities), and the locations and depths of the proposed construction disturbances (including, but not limited to, structures, roads, grading/filling, landscaping, utilities).

From this information, a final overlay map shall be created that indicates the areas with the potential to yield significant archeological resources that could provide insight into Alexandria's past, and presents specific recommendations for the archeological testing strategy. This map shall indicate locations for backhoe scraping or trenching, hand excavation, and/or monitoring. The recommendations will be based upon the specific criteria for evaluating potential archeological significance as established and specified in the Alexandria Archaeological Protection Code.

Public Interpretation

The *City of Alexandria Archaeological Standards* require that a public summary be prepared as part of the Documentary Study. The public summary will be approximately 4 to 8 pages long with a few color illustrations. This should be prepared in a style and format that is reproducible for public distribution and use on the City's web site. Examples of these can be seen on the Alexandria Archaeology Museum website. A draft of the summary should be submitted to Alexandria Archaeology for review along with the draft of the Documentary Study report. Upon approval, a master copy (hard copy as well as on CD or computer disk) will be submitted to Alexandria Archaeology. The summary and graphics should also be e-mailed to Alexandria Archaeology for publication on our web site.

In addition, the archeological consultant will work with the developer and the City staff to develop themes that could be used to integrate the historic character of the property into the design of open space/landscape for the project. If required by the City Archaeologist, the archeological consultant will supply the written text and graphics for a potential historic marker. The text should be up to 200 words in length with a paragraph on the historical significance of the site and a paragraph on findings from the archeological investigation. The graphics (minimally four, with captions) need to be high-quality copies (scanned at a minimum of 600 dpi and saved separately as jpeg or tiff files) of line drawings (e.g., site maps, feature drawings), historic photographs and maps, or other illustrations (e.g., site or artifact photos) in black and

white or color. All copyright releases need to have been obtained and credit provided for each graphic. The text and graphics must be submitted to Alexandria Archaeology on a CD.

The consultant will coordinate with the City Archaeologist before writing the text and selecting images.

Tasks

The following is a summary of the tasks to be completed:

1. Visit Alexandria Archaeology and other locations to gather information, including to-scale historical maps, site reports, and secondary compilations and indexes, and complete research on primary sources.
2. Analyze the compiled data to evaluate the potential for the recovery of significant archeological resources on the property.
3. Produce recommendations and communicate (i.e, by email or phone) these to Alexandria Archaeology staff.
4. Produce and submit two copies of draft Documentary Study to Alexandria Archaeology, including the public summary document.
5. Make required revisions, and deliver to Alexandria Archaeology four hard copies of the final report (three bound, 1 unbound), one digital version of the report on a CD, a separate CD of the approved public summary and text and graphics for the interpretive signage, plus digital copies of field notes, photographs, and records on a CD. The spines of all bound reports will include the report title, firm name and date of completion. The public summary shall also be e-mailed to Alexandria Archaeology for posting on the web site.

Formats for Digital Deliverables:

- | | |
|--------------------------------|--|
| 1. Photographs: | .jpg. |
| 2. Line Drawings: | .gif or .jpg as appropriate. |
| 3. Final Report/Public Summary | Word, PageMaker and/or PDF |
| 4. Oral History | Word |
| 5. Catalogue: | Word, Access or Excel |
| 6. Other Written material: | Word, Access, Excel, or PDF as appropriate |

Scope of Work

for Phase I Archeological Evaluation

Windmill Hill Park

City of Alexandria, Virginia

This scope of work will be implemented in advance of proposed construction activities on the property and calls for a combination of machine trenching and the excavation of shovel test pits and test units, in order to determine if potentially significant archeological resources are present within the project area. Any additional archeological investigations, if required, will be conducted under a separate scope of work. If potentially significant resources are found, Alexandria Archaeology will be consulted regarding determination of significance. To the degree possible, any resources found will be evaluated under this scope; however, additional work (i.e. Phase II Archaeological Evaluation) may be required for some resources, at the discretion of Alexandria Archaeology and the DHR. No significant resources (i.e. resources that require mitigation under a Resource Management Plan approved by Alexandria Archaeology and/or a Treatment Plan and Memorandum of Agreement pursuant to Section 106 review) will be mitigated under this scope.

If an archeological site or sites are discovered as a result of the fieldwork, the sites will be registered with the Virginia Department of Historic Resources (DHR); copies of the site form registration will be supplied to Alexandria Archaeology.

All personnel must be approved in advance by Alexandria Archaeology. Alexandria Archaeology staff will conduct site inspections throughout the course of the fieldwork. All aspects of this investigation will adhere to OSHA regulations and will comply with the *City of Alexandria Archaeological Standards* dated January 1996 and the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*. Miss Utility must be informed before excavations are begun.

Archeological Excavations

A combination of archaeological machine trenching and manual test pit/test unit excavation will be employed. Archeological excavations will be limited to the maximum planned depth of impacts for the site (i.e. about 3.6 feet). This archeological work is designed to:

- Examine the cross-site stratigraphic profile
- Determine the presence/absence of 19th century wharves and structures within the potential impact zone, including the mid-19th century saw mill that may have operated on the site and the hulk of the ship *Young Hero* or other features associated with the “banking out” process of land creation along the waterfront
- Determine the presence/absence of structural foundations, features, and artifact

scatters associated with the various later 19th-century and early 20th- century buildings that stood on the site including the riverine domestic occupation of the site

Machine Trenching

Using a backhoe equipped with a flat-bladed, smooth bucket, the consulting archeologist will direct the excavation of a series of trenches across the project area (Exhibit A). The trenches will be approximately four feet in width and will total approximately 400 linear feet. Trench depth will not exceed the depth of the anticipated impacts of the proposed construction, approximately 3.6 feet below current ground surface.

At least one soil strata column profile will be drawn for every trench. Photographs will be taken. Trenches will be back filled after recordation of the soil profiles if features/buried surfaces are not located. In the event that features or buried ground surfaces are encountered, shovel test pits or test units will be manually excavated within the trenches, as needed, to provide a preliminary evaluation of the findings.

No features will be fully excavated at this time, unless necessary to determine the nature or significance of the feature. Decisions regarding the significance of features and the need for additional testing will be made in consultation with Alexandria Archaeology. The horizontal extent of the features discovered during this process will be drawn and photographed in preparation for further investigation in the next phase of archaeological work.

Shovel Test Pit Excavations

Eight shovel test pits will be excavated to provide additional opportunities to examine subsurface conditions at the site (see Exhibit A). Also, if a buried ground surface is identified during the machine trenching, the archeological consultant will first make a determination of the presence/absence of archeological resources within this surface. Shovel test pits (STPs) will be excavated within the buried surface at 25-foot intervals to identify the extent of any archeological resources. STPs will measure at least 15 inches (38.1 cm) in diameter and will be excavated by natural soil levels. All soils within the test pits will be screened through 1/4-inch mesh hardware cloth screens and artifacts will be bagged and labeled by unit number and by soil horizon. Soil profiles will be made of representative units, with soil descriptions noted in standard soil terminology (A, Ap, B, C, etc.). Soil colors will be described using the Munsell Soil Color Chart designations. The location of each shovel test pit will be mapped and documented with field notes.

Test Unit Excavations

The hand excavation of 3 x 3 foot test units may be required to test and evaluate potentially significant archeological features or buried ground surfaces that are located

during archeological stripping or trenching. The need for test unit excavation will be at the discretion of the project archeologist but in consultation with Alexandria Archaeology staff. The test units will be excavated stratigraphically by natural or cultural levels or by arbitrary sub levels. All soils will be screened through ¼-inch mesh hardware cloth. Representative soil profiles will be drawn using the Munsell Soil Color Chart designation. All work will be documented by field notes, sketch plans and photographs.

Laboratory Work and Curation

Archeological artifacts recovered from significant soil layers within the project area will be retained, cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archaeological Standards*. Organic materials that may require conservation may be recovered; the archeological consultant will not be responsible for conservation of any such material.

Archeological collections recovered as a result of the Alexandria Archaeology Resource Protection Code must be curated at a facility which meets Federal standards for archeological curation and collections management as described by 36CFR Part 79. The Alexandria Archaeology Storage Facility meets these standards, and the property owner is encouraged to donate the artifact collection to the City for curation. The archeological consultant is responsible for arranging for the donation of the artifacts with the owner and will deliver the artifacts and signed forms to the appropriate storage facility.

At the conclusion of the project, all images, field notes and forms and other field records will be submitted in digital format on a CD. In addition, the artifacts, if they are to be donated to the City, will be delivered to Alexandria Archaeology.

Phase I Archeological Evaluation Report

The Phase I *Archeological Evaluation* Report will include the following: a public summary; a map of the project area; a map with trench, shovel test pit, and test unit locations and any potentially significant features; a summary of the procedures; results of the field investigation and artifact analysis, including a distribution map or other graphics which indicate potentially significant archeological areas; an integration of the field and analysis data with the historical record; and recommendations for additional work, if needed.

When the fieldwork is completed, two draft copies of the full Phase I *Archeological Evaluation* Report will be submitted to Alexandria Archaeology. Once the report is approved by the City Archaeologist, revisions will be made, and four copies of it, one unbound with original graphics, will be submitted to Alexandria Archaeology. The report will also be submitted on a CD. All site maps and drawings will be inked or computer-generated so as to produce sharp and clear images that will result in clear photocopies or microfilms.

Public Interpretation

The *City of Alexandria Archaeological Standards* require that a public summary be prepared as part of an Archeological Evaluation Report. The public summary will be approximately 4 to 8 pages long with a few color illustrations, in a style and format that is reproducible for public distribution and use on the city's web site.

A draft of the summary should be submitted to Alexandria Archaeology for review along with the draft of the Phase I Archeological Evaluation Report. Upon approval, a master copy (hard copy as well as on CD or computer disk) will be submitted to Alexandria Archaeology. The summary and graphics will be e-mailed to Alexandria Archaeology for web publication.

Tasks

The following is a summary of the tasks to be completed:

1. Meet with Alexandria Archaeology staff to finalize the field strategy based on the results of the interim Documentary Study.
2. Notify Alexandria Archaeology of the fieldwork start date. Conduct the trench excavation and other testing to identify potentially significant resources. Note that an **Archeological Certification** will be required prior to beginning the fieldwork.
3. Register all sites with DHR and submit copy of the registration forms to Alexandria Archaeology.
4. Process all recovered artifacts and complete the analysis.
2. Produce and submit two draft copies each of the Phase I *Archeological Evaluation* Report to DHR and Alexandria Archaeology, including the public summary document..
3. Deliver to Alexandria Archaeology four copies (including one unbound copy) and CD of the final report, final versions and CDs of the public summary and historic marker text and graphics, plus all field notes, copies of historic documents, photographs, slides, digital images, cassette tapes, transcriptions, forms and associated records. In addition, arrange for the donation and delivery of the artifacts to an appropriate storage facility. Alexandria Archaeology is the preferred repository and requires a City of Alexandria Deed of Gift form.

Formats for Digital Deliverables:

- | | |
|--------------------------------|--|
| 1. Photographs: | .jpg. |
| 2. Line Drawings: | .gif or .jpg as appropriate. |
| 3. Final Report/Public Summary | Word, PageMaker and/or PDF |
| 4. Oral History | Word |
| 5. Catalogue: | Word, Access or Excel |
| 6. Other Written material: | Word, Access, Excel, PageMaker or PDF as |
| appropriate | |

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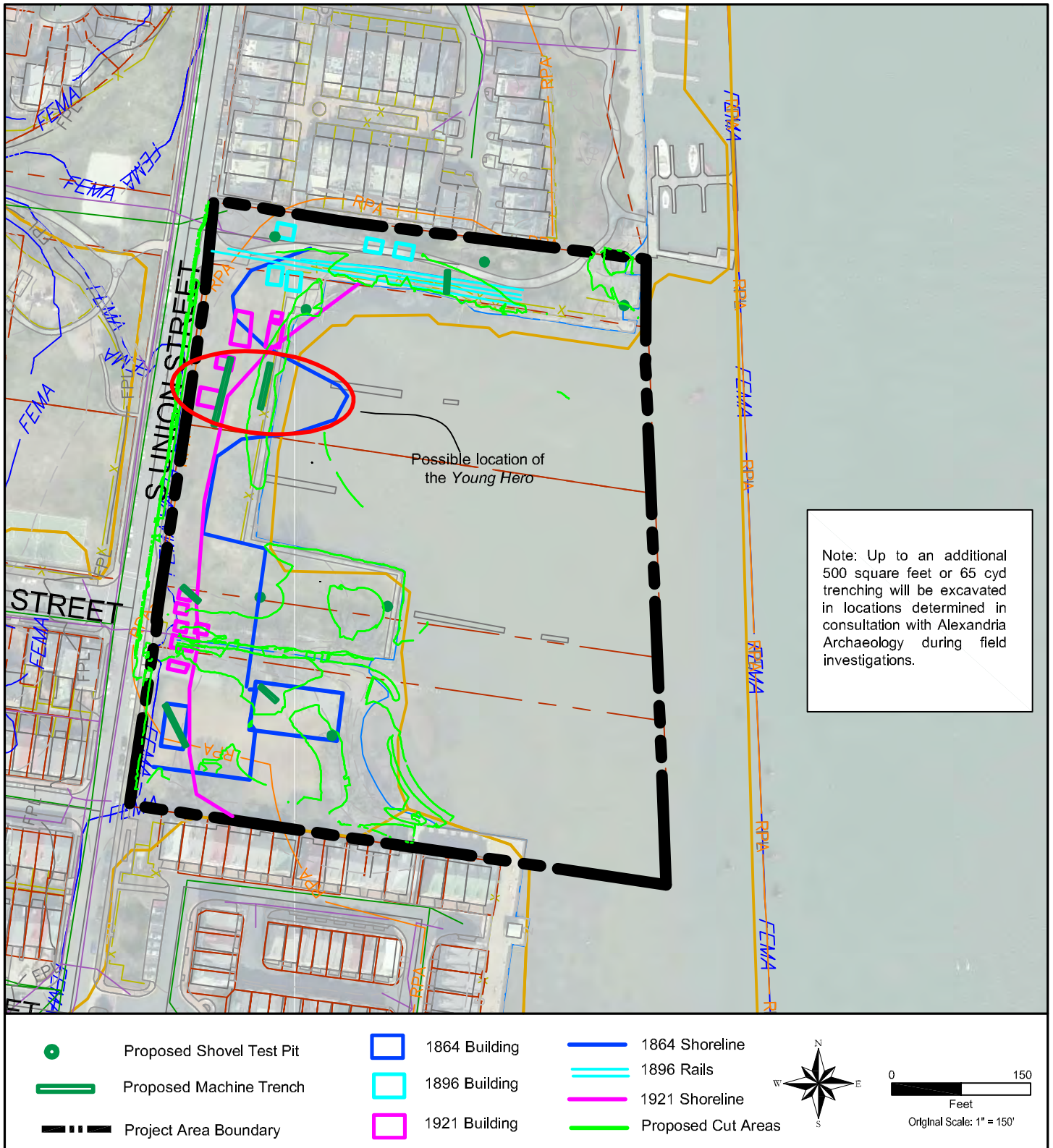


Exhibit B Proposed Archeological Testing and Historic Mapping Overlay

Windmill Hill Park

WSSI #22733.02 - January 2016

Thunderbird
Archeology



HEALTH & SAFETY PLAN

for Phase I Archeological Evaluation

Windmill Hill Park

City of Alexandria, Virginia

A combination of archeological machine trenching and manual test pit/test unit excavation will be employed. Archeological excavations will be limited to the maximum planned depth of impacts for the site (i.e. about 3.6 feet). This archeological work is designed to locate historic and/or prehistoric artifact deposits and cultural features. The features, if located, will likely not occupy the entire exposed area, and the portions without archeological features will be immediately backfilled after a visual examination of the soils. When necessary, the surrounding back dirt will be sprayed with water to reduce the chance of dust emissions. Contact with suspected contaminated soils will be avoided. If suspected contaminated soils are encountered, as recognized by sight or odor, archeological excavation will halt and the appropriate authorities will be contacted.

The nearest hospital is INOVA Alexandria, located approximately 4 miles away at 4320 Seminary Road.

Directions: (approx.. 14 minutes travel)

1. Head north on S. Union St toward Duke St (~500 feet)
2. Turn right onto Duke St
3. Proceed on Duke St (2.6 mi)
4. Turn right onto N. Quaker Ln
5. Proceed on N. Quaker Ln (0.6 mi)
6. Turn left onto Seminary Rd- hospital will be on the left (0.9 mi)
7. Continue on Seminary Rd- (0.9 mi)
8. Turn left onto N. Howard St- hospital entrance is on right

General Safety and Standard Operating Procedures

The following general safety and standard operating procedures will be followed by all onsite archeological personal:

1. Hands and face will be washed thoroughly upon leaving the work site and for breaking for lunch. Work gloves will be worn.
2. All archeological personnel have been certified in First Aid and Adult CPR/AED by the American Red Cross and will be aware of how to recognize emergency situations, including symptoms of heat/cold related emergencies and symptoms of toxic exposure. First Aid kits will be available while working within the study area. Personnel are aware that confusion, dizziness and disorientation are often the first sign of a potential emergency.
3. All personnel will be aware of these safety and operating procedures and will be adequately trained on anticipated hazards, safety practice, emergency procedure and communications.
4. All personnel will follow OSHA regulations if trench excavations are conducted.



Personal Protection

The following personal protective equipment is required for all archeological personnel:

- Long pants
- Long sleeve shirts
- Work boots
- Safety Glasses with side shields
- High Visibility Reflective Safety Vest
- Hard hats
- Chemical-resistant gloves
- Dust masks if necessary



Alexandria Archaeology

105 North Union Street
Alexandria, Virginia 22314
(703) 838-4399

ARCHAEOLOGICAL PRESERVATION CERTIFICATION

Project: Windmill Hill - Archeological Investigation Date: January 29, 2016
Address: Corner S Union Street and Gibbon Street Contact: Boyd Sipe, Thunderbird Archeology
Phone Number(s): 703-679-5623 Address: Gainesville, Virginia

ATTACH MAP: impact areas: red resource areas: blue
archaeological excavation areas: green

1. Proposed Action(s): Expected Date: February, 3 - 5, 2016
☐ Demolition ☐ Construction ☐ Grading
☐ Filling ☐ Utility Trenches
☐ Other (specify) Archeological hand and machine excavations

2. Statement of Archaeological Significance:
☐ Determined Significant ☒ Potentially Significant
☐ No Significance

Discussion:

Unknown until testing has been conducted

3. Archaeological Impact:
☐ Proposed action will alter or destroy significant resources.
☐ Proposed action will not affect significant resources.
☒ Unknown until testing occurs.

Discussion:

4. Proposed Archaeological Preservation Action:

- ☒ Test and then conduct data recovery, if warranted
- ☐ Data Recovery (attach methods and design)
- ☐ Sampling (attach strategy)
- ☐ Recordation (attach methods)
- ☐ No preservation actions

Discussion:

Per the Scope of Work (SOW) approved by Alexandria Archaeology on January 28, 2016 (Attached).

5. Coordination and Scheduling of Archaeological Work in Relation to Proposed Action:

6. Dates of Fieldwork: From February 3, 2016 to February 5, 2016

I certify to the best of my knowledge that the above information is accurate and that the proposed actions will not endanger archaeological resources which may be significant for our understanding of Alexandria's heritage.

January 29, 2016

Date

Name John P. Mullen

Position/Company Thunderbird Archeology/WSSI

Address 5300 Wellington Branch, Suite 100
Gainesville, VA 20155

Phone (703) 679-5617

APPROVED BY CITY ARCHAEOLOGIST:

Date

City Archaeologist

THIS CERTIFICATION IS IN EFFECT

FROM

TO

City of Alexandria
Checklist of Supplemental Approvals
for Archaeological Excavation

Project Name: Windmill Hill - Archeological Investigation Date: January 29, 2016

1. Will you be excavating within 30 feet of a tree that is 6 or more inches in diameter at breast height?

☒ NO - Go to Question 2.

☐ YES - All trees that are 6 or more inches in diameter at breast height must be accurately located and identified on the testing strategy map, including species and size information [trunk diameter and DBH]. Also, include a statement of how trees will be protected (Tree Protection Plan) in the archaeological Scope of Work. Submit a copy of the testing strategy map and Tree Protection Plan to the City Arborist for his review, and obtain his signature.

2. Will the archaeological activities governed by your Site Plan disturb 2500 or more square feet of soil?

Total Length 400 feet x Total Width 4 feet = 1600 square feet of

☐ Test Units

☒ Machine Trenches

Depth of Excavation 3.5 feet.

☒ NO - Go to Question 3.

☐ YES - You must provide the City of Alexandria Department of Transportation and Environmental Services (T&ES) with an erosion control plan. Indicate the ground disturbance locations, the depth of disturbance, and the placement of erosion control devices (e.g. siltation fences). This plan must be approved by the Site Plan Coordinator.

3. Will you be digging in a Resource Protection Area designated by the Chesapeake Bay Preservation Act? Chesapeake Bay Preservation Act Regulations, with maps, are available at Alexandria Archaeology, and in City Hall, Room 4130.

☒ NO - Go to Question 4.

☐ YES - If you will be digging any amount of soil in a RPA, you come under provisions of the Chesapeake Bay Preservation Act. However, archaeology may be exempted from the provisions of this act. To receive an exemption, write a letter of request to Thomas F. O'Kane, Director of T&ES, Box 178, City Hall, Alexandria, VA 22313.

4. Will you be digging trenches deeper than 5 feet, or into Marine Clay?

☒ NO - Go to Question 6.

☐ YES - OSHA regulations require all trenches deeper than 4 feet to be shored, or stepped back. Trenches in Marine Clay must also be shored or stepped back. Present a summary of which method(s) you will use in the excavation to the Site Plan Coordinator, or his representative, for his approval.

Trenches will be stepped/expanded following OSHA guidelines IF excavations are deeper than four feet (See attached SOW)

5. Do the historic land uses on your property indicate that contaminated soils may be present? If your historical data is inconclusive, consult the map of suspected contamination sites and the 1945 aerial photograph series in Room 4130 of City Hall.

☒ NO - Go to Question 5.

☐ YES - If contaminated soils are found, appropriate steps must be taken to preserve the health of the excavators, and to protect the ground water. Do not backfill contaminated soil into non-contaminated soil strata.

A. Ground water protection measures should be included in the Soil Erosion Plan. If you do not need to file a Soil Erosion Plan, present a statement of how you plan to contain the toxic excavated material to the Site Plan Coordinator, for his approval.

B. Excavators must have the proper training and equipment to protect them from harmful pollutants present on some industrial and landfill sites. Present a written summary of your planned Health and Safety measures to the Environmental Quality Manager (Health Department) or his representative, for his approval.

6. Are there known or suspected burials on your site? Do you plan to excavate the burials?

☒ NO

☐ YES - A court order must be obtained to exhume human remains. You must also obtain a permit from the Virginia Department of Historic Resources, in accordance with VR 390-01-02. Copies of VR 390-01-02 are available at Alexandria Archaeology. The Virginia Department of Historic Resources is a legally interested party in any request for a court order to remove an historic cemetery.

REMINDERS

Don't forget to call Miss Utility (703-559-0100) to clear your excavations.

Proper protection (e.g. hard hats, gloves, etc.) should be worn by all field personnel working with heavy machinery and/or contaminated soil.

I certify to the best of my knowledge that the above information is accurate.

January 29, 2016

Date

Boyd Sipe

Name

Thunderbird Archeology/WSSI

Position and Company

Gainesville, VA (703) 679-5623

Address & Telephone Number

City of Alexandria
Supplemental Approvals for Archaeological Excavation

Project Name: Windmill Hill - Archeological Investigation

Date: January 29, 2016

1. Who signs?: John Noelle, City Arborist, 1108 Jefferson Street, 703-838-4999.

Impact of ground disturbance on existing trees: The applicant has obtained my approval of the excavation strategy and submitted an acceptable tree protection plan (copy attached), if necessary.

Signature

Date _____

2-5A. Who signs?: Shanna Sizemore, Site Plan Coordinator, T&ES, City Hall, Room 4130.

Soil Erosion Control: An approved erosion control plan is on file with the Department of Transportation and Environmental Services.

Signature

Date _____

Chesapeake Bay Preservation Act: A letter of exemption from the provisions of this act is attached.

Signature

Date _____

Deep Trenching or Marine Clay: An approved plan for shoring or stepping back the trenches is attached.

Signature _____

Date _____

Contaminated Soil: An approved plan for protecting ground water and natural soil is attached.

Signature

Date _____

5B. Who signs?

Phone: 703-519-3400 ext.163 or 703-838-4334

Environmental Quality Department of Transportation & Environmental Services City Hall, Room 3000 (Box 66)

Contaminated Soil: An approved plan for protecting workers' health and safety is attached, or is part of the approved erosion control plan.

Signature _____

Date _____

6. Who signs? Pamela J. Cressey, City Archaeologist, 105 N. Union Street 703-838-4399.

Burials: Appropriate court orders and Virginia Department of Historic Resources permits are attached.

Signature _____

Date _____

APPENDIX II

Chain of Title

500 SOUTH UNION STREET (081.01-03-07)

2/11/1976

| | |
|---|---------------------|
| City of Alexandria | Southern Railway Co |
| Parcel A SW Union/Wilkes (501 S. Union St.) | 0.61 acres |
| Parcel C SE Union/Wilkes (500 S. Union St.) | 2.02 acres |
| City of Alexandria Deed Book:Page | 819:853 |

5/3/1940

| | |
|---|---------------------|
| E.O. Hulbert etux; L.M. Thompson etux | Southern Railway Co |
| West half of Parcel A SE Union/Lee (500 S. Lee St.) | |
| Information on plat from Deed Book | |
| 819:857 | |

12/13/1867

| | |
|---|-----------------------|
| Orange & Alexandria Railroad | Robert H. Miller etux |
| Parcel A SW Union/Wilkes (501 S. Union St.) | 0.61 acres |
| Orange & Alexandria Railroad | Hugh Smith etux |
| Parcel B (NW corner of Union and Wilkes) | 0.54 acres |
| Information on plat from Deed Book | 819:857 |

2/13/1853

| | |
|--------------------------------------|---|
| Orange & Alexandria Railroad | Robert H. Miller & Anna; James Green & Jane; John S. Miller |
| Parcel A&C? (500 & 501 S. Union St.) | |
| City of Alexandria Deed Book:Page | P3:604 |

4/6/1852

| | |
|--------------------------------------|---|
| James Green | Robert H. Miller, Trustee for William H. Miller |
| Parcel A&C? (500 & 501 S. Union St.) | |
| City of Alexandria Deed Book:Page | 3:285 |

6/15/1832

| | |
|--------------------------------------|------------------|
| Robert, John, and William H. Miller | James L. McKenna |
| Parcel A&C? (500 & 501 S. Union St.) | |

City of Alexandria Deed Book:Page 2:296

11/22/1816

James L. McKenna George & Eliza Coleman
Parcel A&C? (500 & 501 S. Union St.)
City of Alexandria Deed Book:Page C2:447

12/30/1784

Josiah Watson and William Harshorne William Thornton & Lucy Alexander
for 800 pounds remit rent payments
City of Alexandria Deed Book:Page F:104; L:422, 426; FDB Y:40; FDB
OO:183

8/5/1779

Josiah Watson and William Harshorne Heirs of John Alexander
Lots 161 and 162
City of Alexandria Deed Book:Page F:104

**520 LEE [AND SOUTH UNION]
STREET**

7/28/1942

City of Alexandria Leo P. Harlow, Mary H. Harlow, First
National Bank of Alexandria, Trustee of
M.N. Harlow, deceased
City of Alexandria Deed Book:Page 192:391

1930-1934

Lafayette Park Development Company Michael B. Harlow
Will

5/17/1934

Leo P. & Mary H. Harlow Randall T., Elliott, and Marshall H. Lyn,
Lafayette Park
Parcel 4, 5, 6
City of Alexandria Deed Book:Page 117:90

9/22/1926

Lafayette Park

1/2 interest

City of Alexandria Deed Book:Page

Gardner L. Boothe, Commissioner

88:133

Laura B. Agnew, Admin. of Park Agnew

City of Alexandria Deed Book:Page

M.B. Harlow & wife

I7:693

7/31/1918

Gardner Boothe

City of Alexandria Deed Book:Page

Heirs of Park Agnew, Matilda Rodgers et.
al.

67:248

9/2/1912

John Mitchell, Jr. & M.B. Harlow

1/2 share

City of Alexandria Deed Book:Page

Laura B. Agnew, wife & executives of
Park's will and heirs

62:307

9/10/1910

John Mitchell, Jr. & M.B. Harlow

City of Alexandria Deed Book:Page

Laura B. Agnew, wife & executives of
Park's will and heirs

60:239

6/4/1895

Park Agnew & M.B. Harlow

City of Alexandria Deed Book:Page

The Haskin Wood Vulcanizing Co. of
D.C.

33:555

4/6/1893

The Haskin Wood Vulcanizing Co. of
D.C.

auction

City of Alexandria Deed Book:Page

S.G. Brent, G.A. Mushback, and K.
Kempur, Commissioners

30:119

5/31/1893

City Council vs. Virginia Iron Ship
Building Co.

8/8/1892

The Haskin Wood Vulcanizing Co. of
D.C.

George & Susan B. Sheriff

City of Alexandria Deed Book:Page

30:99

9/12/1892

Corporation Court

4/5/1893

The Haskin Wood Vulcanizing Co.,
assignee of George Sheriff

8/3/1892

Chancery Suit pending

S.G. Brent, G.A. Mustboch, and K.
Kempur, Commissioners

1877 Map

John W. Green

600 SOUTH UNION STREET

10/7/1981

City of Alexandria

Bank of Virginia Potomac

Lot S Union St (Pommander Park) Plat
Showing Property Line Between City and
USA

City of Alexandria Deed Book:Page

1138:398

12/22/1975

City of Alexandria

Bank of Virginia Potomac

Parcel 1

13.33% share

Parcel 2

13.33% share

City of Alexandria Deed Book:Page

815:555

7/28/1975

City of Alexandria; Bank of Virginia
City of Alexandria Deed Book:Page

Pommander Walk Limited Partnership
810:842

5/4/1971

Pommander Walk Limited Partnership
City of Alexandria Deed Book:Page

Marisa M.M. Smith, Trustee
722:608

5/31/1968

Pommander Walk Limited Partnership
Charter Book:Page 46:314
City of Alexandria Deed Book:Page

Marisa M.M. Smith, Trustee

682:444

5/19/1968

Marisa M.M. Smith
City of Alexandria Deed Book:Page

William H. & Marilyn T. Savage
682:413

5/14/1968

William H. Savage

Humble Oil & Refining Co. et. al.,
successor by merger of Esso, formerly
Standard Oil Co.

Parcel 1 Tract 2; Parcel 2 Tract 3; Parcel
4
City of Alexandria Deed Book:Page

682:183

9/11/1918

Standard Oil Co., New Jersey
\$9,500
City of Alexandria Deed Book:Page

M.B. Harlow, widower

67:249

**NORTHERN HALF OF 600 SOUTH
UNION STREET****4/1/1915**

M.B. Harlow

J. Johnston Green & wife, heirs of John
W. Green

Parcel 1 Tract 2; Parcel 2 Tract 3 (600 S.
Union St.; 601 S. Union St.; 600 Lee St.
City of Alexandria Deed Book:Page

64:330

1/31/1884

John W. Green
\$166.66 for 1/6 share
City of Alexandria Deed Book:Page

S. Ferguson Beach

21:233

1/30/1871

S. Ferguson Beach
1/6 share
City of Alexandria Deed Book:Page

Fannie L. Taylor

1:282

10/1/1868

Fannie L. Taylor

William H. Fowle

\$600

City of Alexandria Deed Book:Page

Y3:634

11/29/1853William H. Fowle & George D. Fowle,
joint partners Fowle & Co.

William H. Fowle

\$10,000

City of Alexandria Deed Book:Page

P3:310

7/10/1839

William H. Fowle (Third Part)

Jesse T. Ramsey; George & Mary Hughs
et. al. (first part); Robert & Washington
Ramsey (second part)

City of Alexandria Deed Book:Page

Y2:338

6/7/1839

William H. Fowle

Hugh Smith

Rent fee \$40 deed for continuing annuity

City of Alexandria Deed Book:Page

Y2:322

5/23/1837

Jesse T. Ramsey

John Hughs

For a debt with two-story brick house

City of Alexandria Deed Book:Page

W2:462

2/24/1806

John Hughs & John Miller

William T. Alec & wife

For a debt

City of Alexandria Deed Book:Page

W2:462

**SOUTHERN HALF OF 600 SOUTH
UNION STREET**

5/29/1911

M.B. Harlow

J.K.M. Norton & Gardner L. Booth,
Commissioners

Parcel 4 (extends to Lee Street)

Sale in suit of Fannie C. Beig vs. George
S. French et. al.

City of Alexandria Deed Book:Page

61:189

10/29/1872

Mary E. French, daugh of George H.
Smoot, & husband, David Milton French

Isaiah H.D. & Francis P. Smoot et. al.,
heirs of George N. Smoot

Will 3:212 12/28/1868

City of Alexandria Deed Book:Page

2:445

9/19/1839

George H. Smoot

William H. Irvin

\$950

City of Alexandria Deed Book:Page

Z2:364

12/4/1834

William H. Irvin (Third Part)

Joseph Ladd (Second Part); John Hoff,
Trustee, Joseph B. & Eliza S. Ladd

City of Alexandria Deed Book:Page

V2:286

9/22/1813

John G. Ladd

Robert & Ann Clifton Patton

\$576 for tenement in possession of the
heirs of George Hunter

Let by William Thornton Alexander to
Hunter for 6 lbs 5 shillings per year

City of Alexandria Deed Book:Page

AA:55

2/1/1814

George Hunter

William T. & Lucy Alexander

Re-entry 13 years rent due

City of Alexandria Deed Book:Page

Y:352

9/16/1795

George Hunter

Lease

City of Alexandria Deed Book:Page

William T. & Lucy Alexander

H:396

APPENDIX III Resource Forms

Property Information

Property Names

| Name Explanation | Name |
|------------------|-------------------------------|
| Current Name | Windmill Hill Park Bulkhead |
| Historic | Old Town Yacht Basin Bulkhead |

Property Evaluation Status

Not Evaluated

This Property is associated with the Alexandria Historic District.

Property Addresses

Current - 500 Union Street South

County/Independent City(s): Alexandria (Ind. City)

Incorporated Town(s): No Data

Zip Code(s): 22314

Magisterial District(s): No Data

Tax Parcel(s): No Data

USGS Quad(s): ALEXANDRIA

Additional Property Information

Architecture Setting: Urban

Acreage: No Data

Site Description:

March 2016: The Windmill Hill Park Bulkhead is on the west side of the Potomac River and surrounds a former yacht basin. The park, which it retains, is relative flat grass lawn with trees planted along the bulkhead and South Union Street. No buildings are located within the park project area, but the area is flanked by townhomes on the north side of the park.

Surveyor Assessment:

March 2016: Windmill Hill Park east of South Union Street is situated on land that was created in the early-to-mid-nineteenth century at a time when waterfront landowners were banking out their land to increase value and reach the deep channel of the Potomac. The topography and shoreline of Windmill Hill Park on both sides of Union St. evolved significantly over numerous owners; however, its use remained fairly constant as a public gathering space even before it was a city-owned park and as a wharf where merchant ships, ferries, tugboats, and pleasure boats docked.

In the mid-twentieth century, Alexandria's industrial period began to wane at which point, the City began to clear portions of the riverfront with plans to bolster recreation and tourism. Between the 1930s and 1970s, the city assembled Windmill Hill Park from several lots. During the 1950s, construction began on a concrete bulkhead with wood pilings about every five feet. By 1960, it was partially complete with about 450 feet of bulkhead parallel to the Wilkes Street ROW, 400 feet parallel to South Union Street, 170 feet parallel to the Gibbon Street ROW, and 90 feet of bulkhead extending south from there. By 1962, it included two piers approximately 450 feet long. The Old Town Yacht Basin, Inc. leased the waterfront land and rented slips.

Historic Sanborn maps of the city reveal that the Windmill Hill Park retained sandy beaches or was submerged where the present-day bulkhead is located up until the 1950s. Earlier bulkheads were much closer to the shore if present at all in the project area. The Windmill Hill Park bulkhead is a late example of a concrete bulkhead in poor condition with what appears to be a relieving platform system, which were in use along the East Coast as early as 1900 (McVarish 2010).

The bulkhead does not contribute to the Alexandria Historic District because it was built decades after the end of the Period of Significance.

Surveyor Recommendation: Recommended Not Eligible

Ownership

| Ownership Category | Ownership Entity |
|--------------------|------------------|
| Local Govt | No Data |

Primary Resource Information

Resource Category: Transportation

Resource Type: Wharf/Pier

Date of Construction: 1960Ca

Historic Time Period: The New Dominion (1946 - 1991)

Historic Context(s): Architecture/Landscape, Recreation/Arts, Technology/Engineering

Architectural Style: Other

Form: *No Data*
Number of Stories: *No Data*
Condition: Poor
Interior Plan: *No Data*
Threats to Resource: Demolition, Structural Failure
Architectural Description:

March 2016: Windmill Hill Park Bulkhead consists of approximately 450 feet of bulkhead parallel to the Wilkes Street ROW, 400 feet parallel to South Union Street, 170 feet parallel to the Gibbon Street ROW, and 90 feet of bulkhead extending south from there. Wooden piers approximately every five feet support and relieve the concrete retaining wall, which once served as a sidewalk, but has since collapsed and is roped off.

Secondary Resource Information

Secondary Resource #1

Resource Category: *No Data*
Resource Type: *No Data*
Architectural Style: *No Data*
Form: *No Data*
Date of Construction: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:

No Data

Historic District Information

Historic District Name: Alexandria Historic District
Local Historic District Name: *No Data*
Historic District Significance: 1966: Alexandria had its beginnings in the first half of the eighteenth century as a tobacco port for Northern Virginia. Tobacco grown in a wide area was brought there for shipment, and the town became a flourishing port. In the year 1779, the Virginia General Assembly passed the first act of incorporation of the town of Alexandria, and in the same year it was made a Port of Entry. Alexandria became the leading port of Northern Virginia and enjoyed a period of expanding commerce.

The export of wheat through Alexandria eventually became even more important than tobacco. As Virginia pushed her settlement westward, grain growing increased and provided enough to make the colony self-sufficient in flour and meet the demands of an expanding market in England and the West Indies. By 1776 caravans of flour wagons were coming from as far as Winchester, and in 1781 Alexandria was first on Virginia's flour inspection list.

After the Revolutionary War, Alexandria grew in importance as a seaport with clipper ships from around the world loading and discharging cargoes on her wharves. Wealthy merchants and sea captains built gracious houses, schools, a library and churches, and the city became a center of commerce and culture. Alexandria continued as a flourishing port for over a century until the beginning of the Civil War.

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Anna Maas
Organization/Company: Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc.
Sponsoring Organization: *No Data*
Survey Date: 12/23/2015

Dhr Library Report Number: *No Data*

Project Staff/Notes:

Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted a Documentary Study and Phase I Investigation for the City of Alexandria Department of Recreation, Parks and Cultural Activities. The study was initiated in anticipation of planned park improvements of the study area. Boyd Sipe, M.A., RPA served as the Principal Investigator on this project. Anna Maas, MUEP conducted architectural fieldwork and archival research. Dan Baicey, M.A., RPA conducted archeological fieldwork.

Bibliographic Information

Bibliography:

March 2016:
1949-2015 Aerial Imagery
1896-1959 Sanborn Fire Insurance Co. Maps
Alexandria Deed Books (DB) 1795-Present
Alexandria Gazette (AG) [Alexandria, Virginia]
City of Alexandria Library, Barrett Branch, Special Collections
McVarish, Douglass 2010 Gowanus Canal Preliminary Bulkhead Study, Brooklyn, Kings County, New York

Property Notes:

No Data

Project Bibliographic Information:

Phase I Cultural Resources Investigation of Windmill Hill Park, City of Alexandria, Virginia